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ABSTRACT

Assuming that a period of racial disharmony is potentially indicative of increasing salience of racial categories for social life, the issue of whether a period of racial discord is indicative of (1) a point of rapid transition in an overall trend of decreasing salience of racial categories, or (2) preliminary evidence of a general trend of the increasing importance of racial distinctiveness in social decision-making, remains to be resolved. The intent of this paper is first to ground the over-arching question of salience of racial categories in more specific traditional theory of race relations. Subsequently an example of how one can proceed to deal with the question of salience will be outlined. Generally that which is to be presented is an application of techniques to describe the form of the processes of social change. The theory that will be tested will essentially be an integration model of racial relations. The basis for application of the technique of analysis presented herein is that heretofore there has not really been a direct test of the trends predicted for and attributed to interracial relations by integration models of social change. The data looked at here are part of a two wave panel survey of the Puerto Rican labor force. The analysis is a secondary analysis of data, the first wave of which was collected in 1953-1954 and the second wave in 1967-1968.
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# TOWARDS A REFORMULATION OF RACE RELATIONS THEORY

by

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## Introduction

In recent years much of the work of theoretic consequence in the area of racial relations has expressed fairly serious concern with the level of theoretic development of race relations as an area of social scientific inquiry.[1] Certainly the basis for this concern is relatively apparent. The existing social theory pertaining specifically to race relations or even generally to the course of American social life failed for the greater part to even vaguely perceive in advance the racial discord of the middle to late sixties.[2] In trying to recoup from this striking and somewhat embarrassing failure the soul-searching among social scientists who have concentrated in the study of race relations has proceeded as both a healthy and neurotic re-evaluation. On the one hand it has led to an honest, albeit almost totally unavoidable, admission that the state of the science is such that social scientists should be willing to acknowledge and learn from their errors in prediction regardless of the magnitude. At the same time there seems to have been an inordinate amount of effort spent on trying to establish an essentially atheoretic nature of race relations research as the primary cause of the failure. In this regard it seems to be a fairly gross oversimplification to maintain, as does Pierre van den Berghe in Race and Racism, that "the field of race relations has come to resemble a theoretical no-man's-land between psychology, sociology, and anthropology" which has been characterized by "empirical generalizations, description, or narrowly defined studies of problems such as demographic correlates of race relations and the methodology of racial attitude scales."[3]

To maintain as such is to at least partially ignore a not insignificant number of social scientists who have concerned themselves specifically with the form and direction of racial relations (especially within the United

States).[4] In a very real sense such a statement stands as a denial of the existence of elaborated social theory pertinent to race relations (certainly a disputable position) and does not, in any case, respond to the fact of the failure in an at all constructive manner. Quite definitely a good deal of social theory concerned either primarily or tangentially with the form and the direction of race relations does exist.[5] Furthermore there is little doubt that an in-depth analysis of the failure of existing theory could prove invaluable in reorienting the process of theoretical development in race relations. We will, however, not pursue such analysis here. But to simply reject out of hand the bulk of the sociological theory on race relations is to ignore an important and very necessary cumulative growth that the area of race relations has undergone. As a direct consequence of such rejection, one has as a matter of course little or no basis for grounding attempts at new theory. One has, so to speak, thrown the baby out with the bath water. No doubt there are occasions when such drastic action is called for, but it would seem that the theoretic difficulties of race relations are not this severe.

In looking at a specific example, Pierre van den Berghe's Race and Racism suffers from the problem of rejecting virtually all of the existing race relations theory.[6] Van den Berghe characterizes research done in race relations prior to 1967: (1) as developing as a reaction to the pseudo-scientific notions of the nineteenth-century social Darwinists, (2) as lacking a comparative perspective, (3) as limited to contemporary American society, (4) as imbued with a utopian or optimistic conception of social evolution.[7] On the basis of this analysis van den Berghe questions the validity of such research and subsequently rejects the possibility

of any significant contribution to social theory by race relations research. The result is that he (in the self-claimed style of classical theorists) ends up by generalizing from the special case of racial segmentation to a more general "theory of social pluralism".[8] Thus, even though he entitles his work Race and Racism, van den Berghe is really only interested in racial groupings to the extent that they represent instances of the broader phenomena of inter-group relations. Consequently since race as a possibly unique phenomenon holds no interest for van den Berghe, he makes in this respect at best a minor contribution to the social scientific analysis of the form or the direction of race relations.[9]

Though in the above sense van den Berghe contributes minimally to what shall here be labelled as the "social scientific" analysis of race relations, his especially critical evaluation provides a nice departure point. Note, first of all, his criticisms are not sufficient to reject the analysis of racial relations as an area of social scientific inquiry. To be able to legitimately reject race relations' viability as a distinct area of study he would have had to argue and provide some demonstration that membership in a racial group has no consequences over and above the consequences of membership in any other social group. However, from another perspective, van den Berghe's criticisms do point the way to a new approach for the study of racial groupings and their relations. If he is reflected in these terms, then he can be interpreted as adopting a viable new approach for the study of race relations in which race serves as a nominal category of no unique importance. In other words for van den Berghe an alternative

approach to race relations is to refuse at the outset to address the question of whether there are consequences for social life from any intrinsic meaning associated with racial groupings. He is then free to treat relations between racial groups as instances of behavior which are generally subsumed under a broader theory of social pluralism.[10]

In contrast to van den Berghe's response to the predictive failure of existing theory is the approach adopted by Robert Blauner. In Racial Oppression in America Blauner essentially recognizes the same set of theoretic difficulties as van den Berghe outlines in his critical evaluation of existing work.[11] The point at which they differ is that van den Berghe does not want to attribute any unique significance to the existence of racial groupings, whereas Blauner postulates that "racial groups and racial oppression are central features of the American social dynamic".[12] In addition the authors share the conception that previous attempts to explain the form of racial relations "shared the key assumption of general sociology that racial groups and racial conflict were epiphenomenal and ephemeral".[13] Reaction to this leads van den Berghe to call for a holistic approach which concentrates on the dynamics of discrete socially defined groupings, for which racial groups and consequently racial conflict and oppression are not to be considered unique. Blauner on the other hand posits racial groups as being of singular significance and calls for a model of American society which includes this as a fundamental assumption. It is, indeed, interesting that highly similar meta-theoretic analyses of the area of race relations lead the respective authors to such different models for studying the dynamics of racial relations.[14]

Van den Berghe and Blauner reach their interesting juxtaposition

of alternative strategies by what turns out to be surprisingly similar routes. Van den Berghe for his part wants to formulate propositions about the consequences of the degree of social pluralism across societies. But in doing so he appears to forget that the theories that he has denied were predicting across time more than across societies. Blauner for his part wants to try out a colonialism model on American race relations. The point he misses, however, is that the theory that he is reacting to does not postulate the absence of racial conflict and oppression. Essentially both van den Berghe and Blauner are reacting to a failure of existing race relations theory to predict across time. Van den Berghe responds to the problem by calling for a rigorous comparative-historical method that commences with no preconceived notions of racial significance. In other words he is simply trying to incorporate a more objective sociologic analytic technique in the study of racial relations. Blauner's response in turn is to want to allow for subjective meaning of racial groups and then to study race relations in terms of dominance-subjection models of group interaction. In other words he seems to believe that the fault lies not with the method but with the models that are employed in viewing racial relations. But the point at which Blauner and van den Berghe coincide is that neither is willing to break out of traditional forms of analysis to be able to deal with patterns of development in racial relations. Both look upon the predictive failure as a failure of either theory or method; neither is ready to view the conflict as part of an overall pattern. Neither is willing, therefore, to suggest a closer examination of the pattern to see if indeed the racial discord

of the late sixties disconfirms decisively the existing theory of racial relations.

In this regard both theorists do not directly deal with the fact that the bulk of social theory on race is predicting the future form of racial relations from what is held to be a trend in the changing form. That is, in general, most race relations research can be characterized as trying to answer the question of whether racial groups will become more or less important elements in a societal structure. And for the most part existing race relations theory has predicted a withering or lessening over time of the salience of racial categories in social decision-making. In other words the form of race relations is held to be changing at a constant rate; there is no change in the way in which the change itself is occurring. In specific, van den Berghe labels the coincidence of prediction of the form of the trend an optimistic bias, and Blauner labels it an assimilationist bias. Both are reacting to the same bias, but neither is willing to attempt the antithetical formulation that racial categories are increasing in salience over time for social decision-making as evinced by the increased racial discord.[15] Thus although van den Berghe claims to argue for a historico-comparative approach to race relations, he ends up holding the possibility of historical change in abeyance by choosing not to look at racial categories as having changing salience distinct from other group identifications. Blauner makes the possibility of change a non-issue by taking as given the opposite of that which is usually conceived of as the end product of the trend. Consequently both in their respective pursuits of sociological theory seem to have ignored the very issue of whether or not there has been an historical change in the way that the form of racial relations

is evolving.

In developing this line of argument for a moment, it seems that if one wanted to try to develop race relations theory to deal with the racial discord in recent years, one would naturally be drawn to a conflict model of social change. In this regard both van den Berghe and Blauner note that the bulk of pre- U.S. Civil Rights Movement racial research worked within and predicted from an integration model of social evolution. Further there appears to be a coincident awareness on the part of the above theorists that although conflict models of social change exist, in general they have not been elaborated beyond the point of being able to predict the conditions under which conflict arises. Thus it would seem that theorists dissatisfied with existing race relations theory would be drawn to conflict theory for a number of reasons. First it seems to allow for the possibility of increasing importance of racial categories as would be evinced by an increasing frequency of racially defined conflicts. Secondly it is a strategy that can build on existing research without duplicating the analytic errors. Finally in being a less charted approach than the integration approach, it allows a great deal of latitude for theoretic development. So one wonders why van den Berghe and Blauner in their respective dissatisfaction with race relations theory did not attempt to apply a conflict model in the analysis of racial relations.

It should be noted, thus, that both van den Berghe and Blauner recognize a conflict approach to the analysis of race relations as a theoretically attractive alternative.[16] But though they are enticed in such a direction, neither subsequently chooses such a strategy. Van den Berghe because he does not want to limit himself to race relations; Blauner because he feels that he has not sufficiently framed his

thoughts to propose a full-blown theoretic model. Consequently it would appear that either (1) the above two theorists are pre-occupied with developing their respective idiosyncratic theoretic inclinations, or (2) that perhaps a conflict model only provides a partial solution to the difficulties encountered in traditional race relations theory. In believing that the latter is the case, a short review of this situation should help to further elucidate the difficulties that the analysis of race relations presents.

In that a theory of race relations is ultimately concerned with with predicting the form of racial relations with respect to increasing or decreasing interracial dissonance or conflict, the application of a conflict model to race relations does seem appropriate. In general, however, conflict models of social change (or coercion theories as Dahrendorf labels them) have not been developed to deal with the issue of rates of change. For the most part conflict models either postulate a constant rate of change, which is postulated as 'rapid' as opposed to 'gradual', as evinced by instances of inter-group conflict or they ignore the issue of the rate of social change entirely. Conflict models do take up the slack of integration models of change in being better able to describe transitional periods of rapid social change. But this does not mean, however, that conflict models are the antithesis of integration models. Whereas integration conceptions of social change postulate gradual social change, they also at least implicitly predict an over-all decreasing rate of inter-group conflict. On the other hand conflict models in postulating rapid social change, do not predict the converse of the integration model. The converse being an over-all increasing rate of inter-group conflict. Indeed conflict models tend, as van den Berghe notes in a discussion of consensus and conflict models,[17] for the most

part to also predict an over-all declining rate of conflict.

Consequently what we are faced with is a gap in the theoretic tools that can be brought to bear on the issue of the course of racial relations. It is certainly clear that a great deal of race relations research can be characterized as being in the integration theory tradition in predicting the gradual decreasing importance of racial categories. Yet in periods of intense racial conflict and confrontation, there is no theoretic model to be tested which predicts the constant or increasing importance of racial categories for social decision-making. The best that conflict models can offer is vague predictions as to the conditions under which conflict can be expected to arise. In this regard in attempting to apply conflict theory to the analysis of race relations, all that can be gained is a broadening of the integration model to include a period of racial conflict as a transition point in an equilibrating process. There is, however, no readily apparent theory that satisfatorily predicts the logical possibility of increasing inter-group conflict and instability over time.

This brings us back to our point of departure. Existing (primarily U.S.) race relations theory was thrown into disarray by the intense racial discord of the late sixties.[18] For their respective parts van den Berghe and Blauner make important contributions in noting that new direction is needed and in attempting to formulate fruitful alternative conceptions. But if the interpretation put forth above as to the fundamental question of most race relations research and theory, then it cannot be said that van den Berghe's, Blauner's, or a conflict approach to the analysis of race relations provides an effective alternative. Assuming that a period of racial disharmony is potentially indicative of increasing

salience of racial categories for social life, the issue of whether a period of racial discord is indicative of (1) a point of rapid transition in an overall trend of decreasing salience of racial categories, or (2) preliminary evidence of a general trend of the increasing importance of racial distinctiveness in social decision-making remains to be resolved.

Thus the intent of this paper is to first ground the over-arching question of salience of racial categories in more specific traditional theory of race relations. This has already been suggested as an important first step. Subsequently an example of how one can proceed to deal with the question of salience will be outlined. This is the primary purpose of the paper. Generally that which is to be presented is an application of techniques to describe the form of the processes of social change. In this regard the emphasis is on the method of analysis as opposed to the findings. The theory that will be tested will essentially be an integration model of racial relations. This is a very necessary first step before further theory development. Therefore the basis for application of the following technique of analysis is that heretofore there has not really been a direct test of the trends predicted for and attributed to interracial relations by integration models of social change.

No claim is made as to independent or original discovery on the part of the author with regard to the techniques presented. What is claimed, however, on the part of the author is the recognition of the generalizability of these techniques to theories of social life. This claim is based on the premise that when social theory attempts to

predict across time, the basic underlying issue is one of describing patterns of social change.

## Theoretic Justification

Coming from the orientation described in the introduction, the central question of existing race relations theory can be reconstituted as:

> Are racial categories, as subjectively defined according to physical characteristics,[19] becoming more or less important as criteria for placing individuals within a social order?

This question at its base is an issue in the dynamics of social change. In that we are interested in discerning both the existence and the form of a trend, one of the prime goals is to directly describe for a given population the trend of the phenomenon of racial characteristics being held as salient criteria for social decision-making. But as such this is hardly a new concern. As was suggested in the introduction the phenomenon of invidious distinctions and consequent decisions being made on the basis of race has been the subject of much broader concern than a cursory reading of the race relations research and theory would indicate. The manner in which particular social categories become more or less important criteria for establishing groups into which people are classified and/or choose to enter, and further how the ramifications of the existence of such groupings is felt within a social structure have been issues central to the concern of a not insignificant number of major social theorists.

For purposes here it is of note that one of the earlier writers on American social life, de Tocqueville, recognized the significance in viewing dynamically, i.e., with respect to time, the changes in the salience of racial categories. His conception of America was one in which democracy would lead to a "society in which everyone has something and everyone, or almost every-

one, is interested in maintaining the social order."[20] But de Tocqueville felt compelled to qualify this generalization with regard to racial groupings. "He wrote to the effect that in proportion as slavery disappeared and legal equality tended to become established between Negroes and whites, the barriers that result from manners would be raised between the two races."[21] De Tocqueville can be pointed to as one of the notable early predictors of the gradual reduction of a strictly ordered hierarchy to a more fluid and less important hierarchical ordering, often referred to as an associational or pluralistic ordering, of social groups for which the existence of distinct racial groups in a given context would present some uniquely complicating factors. It is further of note that Marx in writing only shortly after de Tocqueville and predicting a different process of social evolution also felt compelled to qualify his theory in reference to racial divisions. In terms of the United States Marx saw the economic issues of the slave/labor and subsequently the proletariat/capitalist divisions as being seriously confounded by the Negro/white split in such a way that he had severe reservations about predicting the course of America's course towards Communism.[22]

Both Tocqueville and Marx are pointed to here as examples of how major social theorists have long recognized the unique importance of racial categories as elements in an evolving stratified order. By no means are they the earliest social theorists or commentators to realize the importance of race, even for the specific case of the United States. Tocqueville and Marx serve here only as illustration of the contention as to the pervasiveness of the awareness of race as a uniquely significant stratifying element.

Consequently if one is willing to accept Tocqueville and Marx as ultimately being theorists concerned with the dynamic aspects and character of stratified social structures, then one can begin to see a reference point for

theory that has broached questions of the evolution of stratified social orders and mobility within such orders especially with regard to race as a socially meaningful category. Without attempting to trace out or argue further that a consistent theoretic trend is discernible, it shall be given that race has continually provided confounding issues that theorists preoccupied with how stratified structures are changing over time have had to deal with. The manner in which the introduction of race has consistently forced qualification of interpretations of political, economic, social, and demographic statuses is a strong indication of the relatively continuous importance of considering race in attempting to make statements about a hierarchical social order.[23] In this regard it is consistent that a few theorists branch off to specialize in questions of race as an important social category, while most of the remaining stratification theorists see fit to address racial stratification only as a special case. Thus by and large the concern with race relations as a unique theoretic area has been relatively continuous, even though the vagaries of outside support and in-house professional concerns and interest have kept race relations from developing as a field of central sociologic concern.[24]

Consequently it seems that it should prove frutiful at this point to look briefly at some specific examples of models of the changing salience of racial categories as presented by some contemporary theorists. In doing so, however, it should be noted that there are logically three possible models dealing with the change in racial salience that can be viewed as "pure types." First of all there are the obvious ends of the continuum of the issue of changing salience: 1) the salience of racial categories is steadily decreasing, and 2) the salience is steadily increasing. The third "pure type" which is easy to ignore (perhaps due to the fact that it lies unobtrusively between the two extremes) is the logical possibility of no change. For the present

the focus will be on the first two types, but it should be noted that there is at least one other possible type of model that can be employed. And although it is less exciting than the other two types, "no change" is no less noteworthy to the extent that ideal-type models are interesting.

In looking now at specific contemporary theoretic formulations, Parsons takes up the problem of how the form of race relations should be expected to change in the future.[25] Although he limits himself almost exclusively to the situation in the United States, his work stands as arch-typical of integration theory's application to the analysis of race relations. Parsons essentially views the United States in Lipset's terms as the "first new nation," and in this regard he characterizes the U.S. as being in the position to take the lead of emerging nations by demonstrating that evolution toward a pluralistic society is eminently possible. He conceives of the U.S. as heading toward "increasing looseness in the connections among the components of total social status."[26] However, rather than presenting an "assimilation model," characteristic of pre-racial conflict integration theory, Parsons claims to be presenting an "inclusion model" of social integration. In this model society is not characterized as much by the social structure molding the individual to its requirements, as it is characterized by a gradual increase of what is to be tolerated by the society in terms of individual behavior. The "inclusion model" predicts that a multi-racial society with full equality of opportunity is possible and, indeed, even inevitable. Accordingly, particularistic norms are giving way to an increasingly wider application of universalistic societal norms. In other words according to Parsons' analysis, certain social separation along racial lines is compatible with full equality of opportunity because racial categories, as symbols, are losing their specific symbolic meaning. Ultimately stratification along racial lines is becoming a less impor-

tant element of the social ordering process.

There are two important contingencies that are helpful in understanding Parsons' conception of the evolution of racial relations. The first is that Parsons trys to view the process within the framework of a supply and demand model of social mobility. It is not, however, the traditional conception as is usually employed in the analysis of social mobility because in Parsons' conception the entering group is not held to be a passive factor in the determination of the equilibrium configuration of the model. It is not as much the structure of conditions of the market place that drive the model toward equilibrium, as it is the conscious pursuit of preconditions of the normative order by societal members. The second contingency of Parsons' conception is that the educational system is viewed as a potential hindrance to the inclusion process. Even though there has been a general trend toward greater public access to education and an overall trend toward a higher quality system, Parsons does not believe that the most direct benefits of education will go to the blacks. Because of an increased dependence of occupational mobility upon educational certification and a lesser overall ability on the part of blacks to take full advantage of and gain complete access to an expanding educational system, blacks will by no means necessarily find in education the catalyst of advancement that it has been to other minority groups. Indeed the implication is that black socio-economic advancement very much hinges on their ability to actively push for greater access to the educational system.

In light of these two points Parsons notes that American blacks will have to press their demands for their full citizenship rights in order to gain them. In predicting as such it is further suggested that black religious identification -- in that most blacks are held to be fundamentalist -- will be the point at which most effective mobilization of black interests can and

will occur to press the society toward the normative ideal.

> The Negroe movement, then, can become the American style "socialist" movement. This is to say that the basic demand is for full inclusion, not for domination or for equality on the basis of separateness.[27]

In addition it is also predicted that political and economic structures will remain essentially neutral to the mobilization of the movement; neither promoting nor hindering the press for full inclusion. Finally, the key issue for Parsons is whether in unifying to press their demands the blacks will retain the prescribed societal goals as valuable or whether they will splinter off and deny inclusion as their ultimate goal. If they keep sight of their goal, then Parsons concludes:

> After all, color is a symbol and, if the context of its historic meaning is sufficiently changed, the prospect is that it will cease to be the basis of a stigma.[28]

In direct contrast to Parsons is Edward Shils. In fact Shils is perhaps the only theorist who adopts a conception of the dynamic salience of racial categories that is for the most part diametrically opposed to Parsons' conception.[29] Shils views the symbolic importance of race as increasing as a criterion for social ordering. Shils presents a two-tiered argument for the increase. First of all, color identification is a historical artifact of the coincident patterns of color distribution and patterns of distribution of power and wealth. But further, the salience of racial characteristics is based in a need for self-identification "in the sense of a primordial connection with which human beings find it difficult to dispense."[30] Thus ultimately the

> decrease in the dominance of primordial attachments of kinship and locality has been accompanied by an increase in the importance attributed to ethnicity and color.[31]

In this sense, then, Parsons views symbolic identifications attached to social categories as a function of particular socio-economic historic contexts, and he views the pattern of social evolution as generally being a trend toward universalization of the contexts which in turn reflects in a proliferation and

diffusion of the symbolic identifications that are associated with particular social categories. In contrast to Parsons, Shils perceives a basic need in "man" to order his universe of symbolic associations such that his "man" will strive always to attach meaning or value to symbols at a much more constant rate than the Parsonian "man." For Shils race and color are becoming more salient categories primarily due to the drop in symbolic consistency of other identifying social categories. It is, then, that Shils does not predict a trend toward a proliferation or diffusion of symbolic identifications associated with particular social categories, but he rather perceives a trend toward the reorganization of specific symbolic identifications as they are associated with particular categories. And it is Shils' prediction that the reorganization will take the form of an international trend toward the increased salience of racial categories.

In being representative of the two ends of the continuum on the issue of the course of racial salience, Parsons and Shils are not intended as perfect examples of the "pure types" described earlier. Parsons' model does not predict the ultimate disappearance of racial categories from all areas of social decision-making. To do so would be to present the hypothetical situation of complete assimilation. Nor on the other hand does Shils' formulation predict the equally extreme instance of increasing salience of racial categories toward an end of complete segmentation of social, economic, and political functions and roles. They serve here more simply to point out the broader theoretic concerns that are more often only implicit in the great majority of the discussion and research on the course of racial relations. In the first case, there is the prediction embedded in the model that decreasingly will racial characteristics be useful general criteria for evaluation in situations demanding judgement of individual characteristics that have no inherent relationship to

racial categories. Conversely the second formulation presents a conception in which racial categories increasingly become the basis for generalizing from racial characteristics to a host of extraneous individual characteristics. In other words relative to the course of interracial relations Parsons' model predicts an evolutionary trend toward an achievement model of social mobility, while Shils' formulation predicts a trend toward an ascriptive model of mobility. Consequently, it seems that -- Parsons' intricate complexity of thought notwithstanding -- here again is ultimately the question of whether or not and to what degree social structures will evolve to promote social placement, i.e., stratification, on the basis of behavioral performance or on the basis of inherited characteristics.

As already noted critics of the explanatory power of existing theory have pointed out that there is a fairly universal consensus that even with regard to race relations social structures are generally evolving to promote a situation "of placing the individual more in control of his social fate."[32] In this regard it must be asked if the social scientific consensus that van den Berghe and Blauner point to in race relations theory and Gouldner and others point to more generally is truly a bias or the result of independent and repeated investigation and discovery.[33]

In responding to this question, one additional qualification needs to be made to better frame the work on the dynamics of race relations as it relates to the generally predicted ascription-achievement shift. That is that every theorist concerned with the issue of how the salience of racial categories is changing cannot avoid framing his statements within the context of rapid technological change. This point has thus far been assumed, but it needs explicit statement.

The world has been experiencing unprecedented change of its economic and

related structures from the advent of the Industrial Age. Further it is within the context of varying rates and forms of industrialization that the concern with the changing rates and forms of mobility has become an important issue. As Blumer notes in Guy Hunter's Industrialisation and Race Relations:

> The process of industrialisation is thus accorded in general thought a dual role of paramount significance. It operates in the first instance as a powerful solvent of pre-established orders of life, undermining traditional institutions, social relations, and values of life. In the second instance, it functions to forge a new framework of relations between people, new institutional forms, and new values and goals of living.[34]

It is within the context of the process of industrialization, then, that the integrationist model tends to predict the lessening of the salience of racial categories for social decision-making. Industrialization is acknowledged to follow different patterns according to varying requirements and resources of a given society and the historical point of its occurrence.[35] At the same time there are commonly held to be certain overriding requirements of the process that yield similar consequences across modernizing societies. Among these are the requirements for a broadly educated populace, for a generally healthy employment base, for a specified and differentiated skill training, and for high physical mobility. The proliferation of occupational and social roles associated with such a process usually leads integration theorists into perceiving a multiplying system of cross-cutting identifications and interest groups which ultimately diminishes the singular importance of any one group identification. In other words, it is the coincident occurrence of 1) contractual relations which displace status relations around which traditional life is organized, 2) the development of impersonal markets and labor markets which displace traditional personal claims to status, 3) physical mobility which disrupts the established structure of status positions that leads to the conception of decreasing salience of racial categories.[36]

> Workers will compete with one another on the basis of industrial aptitude and not on the basis of racial make-up. Correspondingly, members of the managerial force will be chosen and placed on the basis of managerial competence and not of racial affiliation. Imagination, ingenuity, and energy and not racial membership will determine success in industrial entrepreneurship. Ascent on the social ladder will depend on the possession of necessary skills and ability, wealth or capital; racial make-up becomes extraneous. The premium placed on rational decisions will relegate racial prejudice and discrimination to the periphery.[37]

As such the above describes the popular conception of the consequences of industrialization for the evolution of interracial relations. It is important for purposes here to note that in this conception racial group identifications are not held to be especially different from other group identifications. In this regard it should prove helpful to look at the more general application of the process of industrialization's consequences for social mobility to sort out a little more clearly the extent to which and the manner in which racial groups should be considered as unique to the process.

In this regard it is Pitirim Sorokin that leads contemporary sociology into associating varying socio-economic configurations with varying forms and rates of social mobility. In general Sorokin observes that with the process of industrialization evolves a definitely more stratified, and in the case of Western democratic societies, a probably more mobile social structure.[38] As Dahrendorf points out in Class and Class Conflict in Industrial Society, this conception can generally be interpreted as being consistent with the findings of most other mobility studies that have followed Sorokin's initial study.

> This correlation between industrial development and [high] social mobility seems to hold also in the historical dimension.[39]

Furthermore, in the instance of high rates of horizontal and vertical mobility, Sorokin perceives and describes the possibility of a distribution of societal members within the social structure that favors societal stability.[40] That is, individual movement will for the most part place each societal member

within the structure according to personal abilities and inclinations. This placement of members in turn should reflect in an incremental increase in efficiency and creativity that across a large population tends to manifest in greater overall inventiveness and productivity. And it follows from this that the society should enjoy greater material comfort in conjunction with a generally high job satisfaction. As a further consequence it is not illogical to assume that there would be a generally higher level of satisfaction on the part of societal members with the existing structure. In addition to efficient placement of most members it is also suggested that a more fluid structure should allow a generally greater number of socially productive channels for irrepressible members, who in an immobile society could be potentially very disruptive. And finally Sorokin suggests that

> shifting of the population from stratum to stratum and the corresponding experiences are likely to weaken hatred and envy between social groups.[41]

The above conception by Sorokin is basically consistent with the predictions of the achievement model of mobility as depicted by integration theorists, but Sorokin did not commit himself to this as the only possible conception.[42] Indeed he was able to see quite clearly another side to the picture. He noted that in a mobile industrial society one must also entertain the possibility of: 1) "the weakening of the rigidity of many socially necessary habits," 2) "a decrease of intimacy and intensiveness of social ties," and 3) "a decrease of intimate relations with things and the drudgery of everyday work [that] increases a desire for breaking the monotony and getting rid of it."[43] In addition to these factors contributing to the evolution of a less stable structure, Sorokin points out that the rigidity of the pre-industrial immobile society leant stability to the social structure that is missing in mobile societies in the sense that individuals were more likely to know and accept

their position in life. In essence, then, Sorokin perceives a possibility of the traditional conception of the social ramifications of industrialization as described by Hunter in organizational terms, but he also perceives the possibility of another conception in which the structure does not necessarily weaken the antipathy and envy of particular interest groups for one another and may perhaps under certain circumstances even encourage interest group conflict.

> The mobile society does not have any mystical elements nor any supernatural prestige. The masses like it -- when they are satisfied. As soon as there is a situation from which they begin to suffer, they are prone to drive authorities by mild or rude methods. In this process the prestige of the authorities and leaders diminishes, instability increases, and the result is confusion, or a social earthquake.[44]

In other words Sorokin is able to conceive of two differing consequences for societal stability in situations of high social mobility as is characteristic of Western industrial societies. The first conception is basically consistent with integration theory's predictions as to the consequences of an achievement model of social mobility within an industrial society. A direct application of this conception to race relations would predict a trend toward an overall decline in the frequency of interracial conflict and a general decrease in the salience of racial categories. But the whole point of Sorokin's alternative conception as to the consequences of high social mobility is that societal stability does not by any means necessarily follow directly from democratic political structures, industrialized (or industrializing) economic structures, highly mobile social structures, or any coincidence or combination (accidental or otherwise) of these structures. It is indeed perhaps the major point of his groundbreaking work that historically there is no discernible trend toward either greater or lesser societal stability. Thus as Sorokin's second conception pertains to the specific area of race relations, one is lead to predict just as great a chance that industrializing societies

will experience increasing racial salience and conflict as decreasing.

It is, thus, very important to note here that Sorokin's alternative conception does in no way stand in contradiction to his first proposed conception as to the consequences of high social mobility for stratified social order. It stands rather as an important qualification that serves to warn against the naturally attractive utopian aspects of the first sketch. Indeed such a position is more clearly understandable in light of Sorokin's major conclusion as to the "Fluctuation of the Height and the Profile of Economic Stratification."[45]

> Thus, in any society at any time there is going on a struggle between forces of stratification and those of equalization. The former work permanently and steadily; the latter, convulsively, violently, and from time to time.[46]

It is, then, that we find in Sorokin's classic work the basis for the theoretic direction that was noted earlier in the introduction as so obviously lacking for development of an alternative conception to the very pervasive integration approach to race relations theory. All that remains to be done before attempting to complete the fabric of thought that has been developing here, therefore, is to briefly treat the actuality of inter-group conflict as a social phenomenon in the context of industrial society within which it is being employed here. Toward this end we turn to Ralf Dahrendorf's treatment in Class and Class Conflict in Industrial Society.

Up to this point the assumption has been that incidence of conflict could be regarded as a measure directly of intensity of interest group identification by its members over and against an opposing group. Consequently it has been assumed that through measurement of the frequency of inter-group conflict, one would be able to indirectly measure the degree of salience of particular social categories as they stand as rallying or gathering points for societal members. If, however, the intention is to not adopt a conflict theoretic perspective from

which to view race relations, and it is not in that Sorokin's alternative strategy is most definitely not a conflict orientation, then there is a very serious question as how conflict in industrial societies should be regarded.

In this respect Dahrendorf argues that civil wars and revolutions on the order of those predicted by Marxian theory are increasingly unlikely within industrial society. At the same time, however, Dahrendorf indicates that such does not mean that conflicts of interest are to a very great extent avoidable within industrial societies nor does it mean that conflicts of interest have even declined significantly in terms of frequency within industrial societies.[47] Dahrendorf maintains, in agreement with Theodor Geiger, that industrializing societies tend to institutionalize, i.e., organize and legitimate, and therefore diminish the potency and visibility of class conflicts as a means of forcing social change.[48] In this context it is possible to conceive of the existence of conflicting interest groups evolving and interacting without the eventual occurrence of a winner-take-all struggle for dominance in the extreme or without even an inter-group struggle for power in a limited context that has physically violent manifestations. Consequently it becomes that attempting to use incidence of conflict as a measure becomes problematic in the sense that there is every reason to believe that the manifestations of the phenomenon of interest group conflict have changed form. In this sense it seems that the fact of increased interracial conflict should simply be treated as an indicator of the possibility of different processes of evolution being in effect, and not conclusive evidence that there are major weaknesses in the descriptions and subsequent predictions of integration theory as it is applied to race relations.

At the same time that Dahrendorf's perspective on the changing nature of conflict in industrial society cautions its use as a measure, the treatment

itself does raise an intriguing issue. Does the fact that a particular social structure can cope with the conflict mean that the overall stability of the structure has been increased? Or from another angle:

> Has the inclination toward violent confrontation or conflict been eliminated from the system in industrial society or has it merely been dispersed within the structure such that there remains the potential for violent or explosive expressions of internal dissonance through either 1) a maximum limit of the whole system to absorb dissatisfaction of the members with the system or 2) a malfunctioning of the diffusion process to the extent that the divisions separating particular interest groups are decreasingly multiple and cross-cutting and increasingly fewer in number and coincident with one another?

Luckily for our purposes here Sorokin has at least a partial answer to these questions. As he phrases more specifically for his own purposes:

> It is interesting to ask, what is the influence of mobility on the longevity of such culture complexes (specifically, Western societies)? Does it facilitate or abbreviate them? The problem seems to be answered negatively: mobility is a factor which shortens the longevity of culture complex, weakens its continuity and facilitates its disintegration and through this, the long existence of a society or social institution.[49]

And it is further in reaching this conclusion that Sorokin provides the basis for alternative theory, the basis for research hypotheses if you will, against which can be contrasted the integration theory's analysis of race relations. For in arriving at this point, Sorokin discovers two important characteristics of mobile (Western, industrial) societies. The first is that "the map of solidarity and antagonisms within any mobile society becomes more complex and curved than in an immobile one."[50] The implications for our purposes here of this discovery are that we can look upon the racial categories as unique elements in the configuration and that we can probably expect to discover unique consequences for social life flowing from the convergence of particular determinants which establish racial categories as unique elements in the map. Furthermore and more important, this particular characteristic allows in the complexity and curvilinearity of the social configurations for

the possibility of coincidence and convergence of the cell or category lines of division, even though Sorokin prefers to emphasize the atomizing and separating aspects of the divisions. Ultimately this means that there remains the possibility of coincidence of group identifications among enough societal members such that a certain segment is able to determine a new social category that encompasses all the specific and particularistic identifications and that consequently is imbued with salience by its and opposing group members. Thus it appears for our puposes that to the extent that it is found that other social identifications, such as income, occupation, cultural behavior, etc., are increasingly coincident with particular racial categories, one can expect to find increased salience of race as a classificatory element in social decision-making. And to the extent that there are no influences to disrupt the process, one would also expect the increased racial salience to feedback to promote continued and perhaps still increasing coincidence of other social categories with race.

The second characteristic of mobile societies that Sorokin documents is that "the lines of solidarity and antagonism in a mobile society become more flexible and more changeable" and "[t]herefore, it is not strange when we see that yesterday's foes are to-day's friends."[51] What this second characteristic adds to an alternative theoretic formulation is that even if discernible trends are in evidence, it is unlikely that they will continue undisturbed toward some utopian or apocalyptic end. Indeed this suggests that if we are ever able to describe grand historical trends, perhaps the only possible one is that change in social life as a continuous phenomenon is increasing in frequency while decreasing in amplititude. And outside of the sheer problematics of defining measures with which to test such a generalization, it is of note that Sorokin's sense for his data seems to indicate that there is

even evidence to contradict this. The implications for our specific interests here, however, are that we have to be cautious in determining the length of the time period in which to search for a trend in that there will certainly be some relation between the length of the period and the type of questions that can be answered by the data.

Thus we are now in position to tie together the loose threads that have been left dragling in the course of attempting to establish the theoretic justification for the empirical analysis which is to follow. In doing so the major question that remains to be answered in theoretic terms is whether or not the "assimilationist bias" or "optimistic bias" that pervades the theoretic analysis of race relations is the result of independent and repeated scientific analysis and discovery. The position to be taken here is that it is not. It is to be held rather that the coincidence of prediction as to the course of the evolution of race relations has flowed from approximately three related sources.

The primary source of the error is readily attributable to Talcott Parsons' inordinately great influence on the field of sociology. The consequence of this influence has been most directly felt in terms of Parsons being the foremost proponent of values and value systems as important causal factors in social life. What this has meant is that there has been an under-emphasis of the historical and situational factors which constrain individuals in the process of forming values. In turn the over-emphasis of values as causal factors has lead to the almost unavoidable utopian conception of social evolution. The real tragedy in this regard is, as Lipset points out, Parsons never intended nor believed that his emphasis on the importance of values should lead to the conception of values as the "sole or even the most important determinants of particular structures or processes."[52]

The secondary source of error derives somewhat from the first. It is, then, in analyzing social life in terms of values and their systems that there continued the tendency inherent in sociology even before Parsons' entrance into the field to rely on, as Albert Reiss calls it, anecdotal data or, as Pitirim Sorokin phrases it, the illustrative method. All too often the data marshalled to test integration theories have been discontinuous and not especially detailed. The analysis of such data has been cursory and incomplete. The manner in which integration theorists have contributed to this situation is by developing theory that is exceedingly general in its statement and consequently essentially unfalsifiable under test. The integration theorists have for the most part not been developing deductive theory, but have rather been predominantly working at generalizing the basic tenets of the theory to all aspects of social life.

The final contributing factor has been the claim of inadequate access to appropriate data for testing the descriptions and predictions of integration theory over time. It shall be submitted here, however, that appropriate data do exist and in much greater supply than is often allowed. It appears that the main reason for the minimal use of the historical or time-series type of data is either that -- as was suggested in the introduction -- theorists generally do not recognize the dynamic implications of their evolutionary propositions or statements or that they have not acquired the analytic tools for dealing with such data. Whatever the reason, it shall be submitted here that the time has come to follow Lipset's admonishment much more closely than sociologists have generally been inclined to do, that "there is no necessary clash between developing general sociological hypotheses and taking historical specificity into account."[53]

As all of this applies to the analysis of race relations, what is needed

is a clearer perception of what in fact are the historical trends and situational constraints that impinge upon an aggregate's choice to act as an interest group and subsequently perhaps to define competitive situations as points of conflict. In other words, are the descriptions of the trends toward racial equalization actually accurrate, and to what degree can we have confidence in the predictions made from these trends? The major assumption that is being made in trying to chase this down is that homogenization of an aggregate along certain characteristics allows that aggregate to define itself as an interest group in terms of the common characteristics such that as a group it can compete for scarce resources with other aggregates or groups. The main hypothesis to be tested is, then,

> With the process of industrialization there is increasingly less of an association of economic and/or politically salient characteristics, such as skill level of occupation, with certain socially recognized characteristics, such as race.

In testing this, questions to be asked are 1) is there a definable coincidence of race with occupation, 2) at what point do the patterns change or not change, and 3) is there a discernible amplitude or periodicity to such patterns of development as are recognizable?

And finally, before commencing the data analysis and presentation of analytic technique, it should be noted that the spirit of this work is in agreement with Hunter as he states that

> the literature is conspicuously lacking in the desired round of factual or descriptive accounts of what has happened to race relations when industrialism is introduced and expanded. We are limited, by and large, to a sparse and uneven array of such accounts.[54]

In this regard the call for a comparative analysis of historical trends should be kept in mind in reading this initial work.

## Data Analysis

The data that will be looked at here are part of a two wave panel survey of the Puerto Rican labor force. The analysis is a secondary analysis of data, the first wave of which was collected in 1953-1954 for Social Class and Social Change by Melvin Tumin with Arnold Feldman. The second wave was collected in 1967 and 1968 under the direction of Arnold Feldman by, among others, John Kendrick and Barbara Jacobson from whom permission was obtained to work with the data. The original sample (1954) was a stratified -- by education and residence -- random sample of 1,000 respondents. Of the original sample, 669 were subsequently re-interviewed in the second wave, most of the atrition being a consequence of migration or death. Because there is no satisfactory way to determine the extent to which migration and death were random or category specific in their effect, it shall be assumed that the attrition factors were essentially random occurrences in the diminishment of the original sample. Thus the completed sample will be taken as being basically representative of the Puerto Rican labor force.

This particular body of data has a number of attractive characteristics appropriate to dealing with the above mentioned questions on race relations and industrial change. One of the primary reasons for its use, however, in trying to address the above issues was its greater accessibility relative to other bodies of data that might also have been employed. Beyond this consideration of expediency, the Puerto Rican data are exceptionally appropriate in that they include year by year work histories for the 669 respondents over the period of interest, 1940 through 1966. The period itself is of interest because it was during this time period that Puerto Rico underwent rapid industrialization.[55] It was also during this time period that Puerto Rico experienced the secondary consequences of industrialization, such as urbanization, expanded and improved

health and medical services, and an expanded educational system. In particular,

> The basic characteristics of the expansions of the public school system during this period are an increase in the democratization of access with little change in the quality maintained in the classroom.[56]

The final attraction of looking at these data is that it is often contended that in Puerto Rico race plays no important role in the social order. Of course, as L.E. Braithwaite notes, this contention must be tempered by the opposite contention that "race is only partially masked from view and in fact operates in much the same way as in other countries".[57] But the important point is that at least on the surface Puerto Rico has

> officially and popularly declared for itself other goals and intentions [than strict economic development] to which, in theory at least, it gives equally firm priority. Prominent, perhaps sovereign, among these is a concern for one particular aspect of the traditional way of life to which even the most committed modernist pledges allegiance. This is the notion of dignidad, a term which expresses the belief that all men are ultimately equal and equally worthy of respect, regardless of temporary or even enduring differences in their material standard of living, in the formal power they exercise, or in the prestige which their occupations and educations evoke.[58]

Thus it can be given here that Puerto Rico sufficiently manifests the social characteristics held to be common to industrializing societies. But Puerto Rico has an additional attraction in that an increase in the salience of racial categories would run counter to the prevailing value system. This means first that we are stacking the deck against the possibility of disproving integration theory as it applies to race relations. But this ultimately means that if indeed it can be demonstrated that coincidentally with industrialization there has been an increasing alignment of racial categories with economic or political statuses, then there is definitely a basis for questioning the prediction of decreased salience of racial categories for social decision-making under industrialization as is predicted by integration theory.[59]

The only qualification that needs to be made in terms of working with data on Puerto Rico has to do with the period of 1940 through 1966 being held as the period of industrialization. Certainly modernizing and industrializin forces were not limited to this time period. As Tumin and Feldman argue, rapid social change most likely dates back to the turn of the century when Puerto Rico was obtained from Spain and a colonial government was established.[60] Further it cannot be denied that the United States' sovereignty over Puerto Rico allowed her a competitive advantage in marketing goods and services that other Caribbean dominions and protectorates were not allowed. In addition, urbanization and the provision of mass public education and health benefits began prior to 1940. But although there are reservations to employing the 1940 through 1966 period as the main period of industrial and social development, it will be used here for the following reasons. First of all, THE PERIOD starting with World War II and continuing into the post-War and cold war era was definitely a time of rapid industrial growth enjoyed by the United States and its territories, including Puerto Rico. Secondly, it was during the late forties and early fifties that Puerto Rico engaged in its final push for and ultimately realized political autonomy over its domestic affairs. Thus, it was during this time that Puerto Rico was simultaneously benefitting from its privileged trade status with the United States and gaining formal control of it social and economic development. And finally this time period was settled upon for methodological considerations of data reliability. It is held that, since the information on work histories was dependent on respondent recall and not on private or public records, the work histories were probably more accurately reported for the more recent years since 1940.[61]

It follows directly from the preceeding groundwork that in which we are interested is differences in aggregate mobility between differing racial groups in Puerto Rico across a time period of industrialization. Since the interest is in the description of net mobility patterns and not the gross structural form of the mobility, it shall be submitted that neither the various matrix techniques of Lenski, Rogoff, Jackson and Crockett, and Carlson[62] nor the path analysis technique of Duncan[63] is appropriate to adequately resolving the issues being posed. Without going into detailed justification, it should be recognized that the following techniques take their lisence for application from Duncan and Hodge's ground-breaking application of regression analysis to the study of occupational mobility.[64] In doing as such only two observations should be made concerning the application of regression analysis. The first is that Duncan and Hodge point out that an acceptable quantification of occupational status is necessary. In this regard they have specifically in mind the rank ordering of occupations as exemplified and elaborated by such works as Occupational and Social Status.[65] But it is also important to note that the specificity of the scaling of the ranks should be additionally considered. Secondly, Duncan and Hodge make it clear that the use of occupational status as the dependent variable allows a more straightforward interpretation of the statistical association.[66] The reasoning behind the above decisions should become clear as we proceed.

Consequently the stage is set. The intention here is to analyze the trends in occupational work histories to primarily resolve whether or not racial categories are becoming more or less coincident with certain occupational skill levels. It is held that this is the grossest test of there being a basis for the increase of racial salience that we could devise. In this

regard it is not the occupational inheritance patterns of racial groups that will be looked at to determine the amount of rigidification in the mobility structure. What is to be looked at is whether the overall occupational distribution among racial groups is tending to change across the time period of industrialization and in what manner relative to certain key variables, age and education.[67] So with no further justification or qualification as to the motivation or intent of this work, the actual analysis will now begin. The analysis and its discussion should elucidate and drive home all that has been constructed to this point.

## Data Analysis (for real)

Given that the main interest here is in terms of looking at occupational histories from 1940 to 1966, there arises the immediate problem as to which statistical analytic technique or techniques permit the clearest analysis and presentation of the data. Although in the process of actual analysis a number of techniques were employed and reviewed, one technique was finally settled on for presentation purposes here.[68] This technique ultimately decided upon is one that aggregates or summarizes individual work histories for a given period. Specifically, the information on occupation is in the form of classification of the 669 respondents according to an occupational skill level scale ( see Chart #1 ) for each of twenty-seven years, 1940 through 1966. For each year a summary measure was calculated -- in this case the mean was employed -- for each of the various combinations of the categories of race, age, and education. Age was included to help sort out maturation from historical change, and education was included as an important causal factor for which there is evidence as to its changing relationship to the

determination of occupational status over this period.[70,71] Once the data was aggregated in this manner, plots were generated of the summary measures across the twenty-seven years on each of the specific combinations of categories of the above variables. And subsequently ordinary least squares techniques were employed to estimate the linearity of these distributions across time. The logic behind this was to ultimately be able to compare the slopes of those linear trends that wash out as a relatively straightforward method of being able to make statements about the relative differences in the patterns of mobility of the groups involved. Consequently the technique that surfaces here is essentially a form of cohort analysis of twelve cohorts, comprised of two categories of race, two categories of education, and three categories of age. ( see footnote #82 for the determination of categories. )

Justification of Analytic Technique*

There are certain obvious analytic difficulties involved in looking at the data in the fashion described above. But there seem also to be some advantages which, it is contended, center around a goal of descriptive clarity. It is hoped that the advantages of clear presentation outweigh the analytic difficulties when taken as a whole. But as such, this, of course, remains to be evaluated. Barring all else this remains an exercise which attempts an integration of analytic power with descriptive clarity.

The first difficulty comes in using the mean as the summary measure of occupational skill level in a given year. Certainly the mean is in many ways the best single measure of central tendency of normally distributed data.

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* This section remains in the body and not in an appendix since it was felt necessary to highlight the logic of this approach to encourage appropriate critical feedback. Those uninterested in the technical details can skip to the findings in the next section.

But a cursory glance at the marginal frequencies of Occupational Skill Level (40-66) in any given year indicates that the distribution is skewed towards the lower skills.

Looking at the distribution in more detail, it is further noted that the skewness does not remain constant over the time period, but it gradually decreases. Specifically, the mean of Occupational Skill Level in 1940 is 2.13, while the median is 1.22. This yields a skewness for 1940 of 2.25. Over the following twenty-seven years the mean increases gradually and consistently as does the median, such that in 1966 the respective scores of 2.71, and 2.05, yield a skewness of 1.48. The decrease in skewness from 2.25 in 1940 to 1.48 in 1966 is gradual due to a combination of the median increasing at a slightly faster rate than does the mean and of the standard deviation increasing from 1.22 to 1.35. Thus we can justify the choice of the mean as a summary measure on the following grounds. First, in that a single summary figure is desired for each year, we would be hard pressed to justify the use of a measure other than one of central tendency as a better single representation of the information. Secondly, it is well known that the mean is more mathematically tractable than other measures of central tendency. Thirdly, as it turns out for these data, the mean reacts more conservatively to the changing distribution than does one possible alternative, the median. This is to say, we have chosen the most useful summary statistic which at the same time provides us with a more difficult task in demonstrating change. ( Indeed the fact that the median reflects the change in the distribution across time slightly more definitively than does the mean is most likely a consequence of 1) that there are absolute limits on the scale of measurement and 2) that the median, as the

measure that minimizes absolute error in prediction, is more sensitive to numerous small changes in a given direction than is the mean, as the measure that minimizes the sum of the error. ) Thus, though the mean does not represent the modal or most probable point or the midpoint in the sequential distributions of occupational skill level, it is still the best summary statistic that could have been employed.

The second analytic difficulty involves how to deal with the problem of missing data. ( Note that the resolution of this problem was assumed above. ) The question that arises is, should there be a listwise (casewise) or pairwise deletion of missing data.[72]

It was ultimately decided that pairwise deletion is more appropriate for this analysis. First of all, it was found that on the average with pairwise deletion 143 pieces of information were unavailable in any given year; the high being 205 missing for 1966 and the low being 89 for 1954. While on the other hand there were only 282 cases that had no breaks in their respective career histories, such that in each year 387 observations were lost of which well over half had potentially useable information. Consequently pairwise deletion was justified on simple methodological grounds that too much information would be lost otherwise. But it is further justified on theoretic grounds. We are interested in the overall trend and not just in the trend of those continuously in the labor force, for whatever reasons, over the period of industrialization. Indeed one might speculate that those with discontinuous career histories might have gaps because of military service, additional education, or other such activities as could positively affect their occupational status.[73] The information on these people should not be discarded even for

technically legitimate reasons. In any event in this instance methodologic and theoretic reasoning coincide to justify pairwise deletion of missing values as the proper method of handling missing values.

A third analytic difficulty arose in the length of the time period to be employed in analyzing the data. Certainly central to this determination is the primary theoretic concern of viewing occupational status over a defined period of industrialization, and it has already been argued that 1940 to 1966 suitably describes such a period. This does not mean, however, that the period necessarily must stand as a whole. The period chosen could be subject to theoretically interesting variations from a gross process. It is certainly possible to conceive of phases of industrialization or historic events which change the character of the overall process of industrialization. Without bothering to go into any great depth on this issue, it will simply be noted that an attempt was made to partition the period into possibly theoretically meaningful sub-periods. Without exception such attempts reflected little if any variation from sub-period to sub-period. Thus it was concluded that the partitioning up of the twenty-seven year period would be strictly arbitrary and of virtually no theoretic or statistical importance here.

The fourth and final analytic difficulty to be pointed to here is, it appears, much more serious than the preceeding three. In fact it seems that the legitimacy of the technique of analysis hinges on this difficulty. The problem centers around the estimation of the lines describing the trends of Occupational Skill Level. The question is to what degree are the results and our confidence in the results affected by the violations of the assumptions of ordinary least squares(OLS) that are presented by these data.

First of all, if one looks at the multiple regression,

$$Y_{(occ40)} = b_o + b_1X_{(occ41)} + b_2X_{(occ42)} + \ldots + b_{26}X_{(occ66)}$$

one discovers, not surprisingly, a high degree of multi-colinearity with the colinearity being strongest among adjacent years and reducing to zero order r's of no less than 0.7 when the greatest number of years intervene. This would seem to forshadow discovering a high degree of serial correlation of error for the aggregate variable Occupational Skill Level$_{(40-66)}$. This seems indeed to be the case ( see Graph #1 ), which is seen upon calculating the Durbin-Watson statistic for the aggregate variable, Mean Occupational Skill Level$_{(40-66)}$.

$$D_{(Occ:40-66)} = 0.25.$$

We thus reject the null hypothesis that there is no serial correlation in the error of this variable. But does this pose a serious enough violation of the OLS assumption of independence of errors to encourage the adoption of alternate techniques of linear estimation, specifically application of generalized least squares estimation(GLS)? After much thought on the matter, it was ultimately decided that the violations were probably not severe enough to absolutely dictate the use of alternatives to OLS estimation and that the problems encountered in attempting to apply GLS estimation were too great to be properly dealt with at this point. Further it was concluded that there appear to be certain important theoretic considerations for not abandonning OLS estimation. Consequently the decision was made that, for the time being, analysis using OLS estimation is sufficiently justifiable as a worthwhile analytic exercise with the reservation that at some point in the future

re-analysis with GLS techniques might provide a useful and interesting secondary analysis of the data.

The reasons behind the decision to employ OLS estimation were both theoretic and technical. The technical reasons are as follows. First of all, the application of GLS is strictly speaking geared to problems of correlated error between two variables measured across time. In our analysis we are only really concerned with the estimation of the line representing one variable across time. But regardless of this qualification it seems that we should still be concerned with the efficiency of OLS estimation in that -- no matter how unavoidably -- we still have correlated error between the two conceptual variables of Mean Occupational Skill Level and Time. To deal with this concern directly the possibility of using GLS estimation was delved into.

In terms of applying either GLS or generalized data transformations with OLS, which work to the same end of improving estimation reliability, the following problems were recognized. First and foremost, it was recognized that the form of the correlation of error is unknown. In pursuing this, it did not seem intuitively unreasonable to speculate that in this case that the form of the correlation of error was first order auto-regressive.

$$u_t = \hat{p}u_{t-1} + v_t$$

where $|p|<1$ and $v_t$ satisfies the assumptions

$$E(v_t) = 0$$
$$E(v_t v_{t+s}) = \epsilon_v^2 \qquad s=0$$
$$E(v_t v_{t+s}) = 0 \qquad s\neq 0 \qquad \text{for all } t.$$

This speculation seemed reasonable because one could seemingly expect that most of the correlation of error might be explained at time t by looking

one time back at t-1 in that individuals appear to remain at particular occupational skill levels for extended periods. That is, it was reasoned, one should expect t-2, t-3, etc., to add little in the way of that which can be learned by simply looking at t-1.[74] In additions to this speculation it was also noticed that

$$\bar{v}_t = 0.00037$$

such that the first assumption appears to be satisfied. Yet all this speculation ends up being exactly that when one looks at the covariance of the estimated error and the estimated error lagged once. One gets

$$Cov(v_t v_{t-1}) = 1.06$$

which violates the third assumption of first order autoregressive error. Consequently we have to conclude that we really do not know the form of the correlation of error here.[75]

A further problem that is directly tied to the preceding, is that we do not know the strength of the correlation of error. Another way of stating this is that we do not know the expected value of the variance-covariance matrix, even though we know that there is autocorrelation. The best we can do is estimate p from r, an estimate that even assuming first order autoregressive error will be biased and underestimate the true value of p.[76]

A third problem encountered is how one should treat the conceptual variable of Time. One cannot label the distribution as random since it is not a sampling distribution but is rather a population distribution. And because there is no error, Time is linear, X is perfectly correlated with itself. Furthermore if we look at the plot of the standard deviations of $Y_1$ against $X_1$, one gets

a slope of

$$b_{s_y} = 0.00505 \pm 0.00172 \text{ at the 0.01 level of significance.}^{*}$$

This would seem to give us serious cause to worry about our ability to reliably estimate $\sigma_u^2$, the variance of the error, if u and $x_i$ are first order autoregressive.[77] But $x_i$ is not, in the strict definition, first order autoregressive ( $|\rho_i| \neq 1$ ), and, given its unique form, the proportional increase of $s_y$ with $x_i$ is a foregone conclusion.

This seems to force us to take another tack and ask how much the variance of $Y_i$ changes over time. In this regard it was discovered that the ratio of the variance of Occupational Skill Level in 1966 with the variance in 1940 is

$$F_{(463,508)} = s_{y66}^2 / s_{y40}^2 = 1.20$$

which is not significant at the .01 level of signifcance. Thus, it would seem that even though $u_t$ and $x_i$ are both positively autocorrelated, one has to treat this as an artifact of looking at one variable across time. Ultimately it comes down to guessing how seriously we think that our ability to estimate will be jeopardized.

So as regards the technical part of the decision of whether to use OLS or GLS estimation, the above problems were noted. Consequently it was decided that the most fruitful course would be to undertake OLS estimation initially, since there appears to be little reason to believe that the violations are so great as to cause a complete breakdown of OLS reliability. In line with this conclusion is the feeling that, although strictly speaking one can expect the sampling variances of the estimates to be unmanageably large under conditions described above of autocorrelation of error and possible

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* see GRAPH #4.

heteroscedasticity, the estimates should be meaningfully differentiable in that given the method of comparison one would expect the serial correlation of the error to be relatively consistently represented in the respective estimates. Of course, it still makes sense to attempt to reanalyze the data at some future point with GLS, but for the first time around it appears that there are simply too many problems to make GLS a very promising estimation technique.

This conclusion as to the technical aspects was further supported by the assessment of the theoretic concerns here. This is to say that serial correlation is to be considered not merely as a statistical artifact but as a reflection of information that is important to the analysis. If people tend to change levels of occupational skill slowly across time, this is a fact that we want to reflect in our analysis. Indeed, given the suspected form of the autocorrelation, one would guess that the tendency will be to consistently understate the slope relative to the technique that would produce the best linear estimator of the smallest variance. Doing so is acceptable here, since we are initially concerned more with the description of actual patterns across time and not that which is happening under certain hypothetical conditions.[78] Indeed it seems that the use of generalized differencing and OLS estimation[79] would actually give us the relative change of the trends themselves across time and not whether there are actually trends in the first place. But in any event, as has been noted at numerous points, that which is of interest is the establishment of whether or not there exists first order change ( and not what it is absolutely ) and if there are discernible differences in the magnitude of the change among certain status categories.

## Findings

In terms of the actual data there are a number of interesting things going on.[80] To sort these out we will view these data from a number of angles. First of all, in looking at the gross trend from 1940 to 1966, it is noticed that the slope representing this trend is

$$.02297 \pm .00302$$ at .01 significance. (see GRAPH #3)

Now as can be seen, this slope is statistically significant both because of the long time period over which the trend was measured and because of the high linearity ( $r^2 = .885$ ). Also there is little doubt that the expected underestimate of the standard error of estimate further contributed to the narrow confidence limits. But statistical significance is not the main concern. It remains to be decided as to whether the trend being significantly different from zero gives us any useful information. In other words in real life the slope may be so gradual as to have little important theoretic meaning regardless of statistical significance. Without belaboring this issue it seems that it is of some social significance that the mean occupational skill level is moving up in consistent, albeit gradual, increments with each successive year. What the direct causes are of this movement is not of central concern, but it is of note that the increase did take place during the period of industrialization as predicted. So even though it is not being tested here, there seems to once again be a visible relationship between industrialization and higher occupational skills. In any event, we choose to treat this overall trend as theoretically meaningful.

In moving from the overall picture to looking at the differences between racial categories, it was found that the trend of Mean Occupational Skill Level

was for whites

$$b_{moslw} = .0245 \pm .00294^{81} \qquad \text{(see GRAPH \#5)}$$

and was for nonwhites

$$b_{moslnw} = .01935 \pm .00342. \qquad \text{(see GRAPH \#6)}$$

What this means is that during the period of industrialization the differential between mean occupational skill level grew slightly larger in a consistent manner. Certainly the fact that for both racial categories the course of the mean occupational skill level was a positive is LINEAR TREND important. Perhaps it is even far more important than the slightly greater difference in mean occupational skill level at the end of the time period than at the beginning, even noting that nonwhites started out at a slightly lower absolute level.[82] But even though one should be cautious in predicting the continuation of any trend on the basis of its historical continuity, it nonetheless seems plausible that these observed trends might continue. In such a case one approaches being able to reject the main hypothesis. In other words from this first glimpse of these data one would not want to confirm that industrialization and decreased association of racial categories with particular economic statuses is a regularly ongoing process. But before confirming or disconfirming anything, it seems that a closer examination is in order.

If one compares the trends between whites and nonwhites matched on categories of age and education, a somewhat different conception begins to wash out. ( see Table I ) In looking at those who are young, one can see that the trend of the mean occupational skill level is approximately equal for equivalent levels of education.* Thus it can be argued that in terms of this focus on occupational skill level, those who were young, either just entered

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* see GRAPHS 7 & 10, 13 & 16.

or would enter the labor force in the next ten years, in 1940 seem to have experienced little if any trend toward differential distribution on skill level according to race in the labor force. Consequently, this it would seem is the piece of evidence that keeps us from disconfirming integration theory for race relations, since it is this cohort that has worked exclusively during the period of industrialization and modern social change. But if one looks at the point of entry of the nonwhites of high education, labelled young, one sees that nonwhites started out a lower point relative to whites on mean occupational skill level. Therefore, while there has been no relative loss over an originally lower position, there has been no relative gain for nonwhites of high education and young age, either.[83]

In continuing on, if one looks at those who are labelled middle-aged in 1966, 24 to 36 years old in 1940, one sees a slightly different pattern. For those of low education the trend of the mean occupational skill level is approximately the same for both races. In addition one finds that whites and nonwhites are at an equivalent level at the beginning of the period and are thus at an equivalent level at the end of the period.* There is, consequently, no trend toward skill level redistribution for this age group of low educational achievement. On the other hand if one looks at the trend for middle-aged whites and nonwhites of high education, one sees a fairly substantial differential in the slopes of the respective trends. But this difference in the slopes serves to reduce rather than extend the difference of mean occupational skill level between whites and nonwhites.** The whites start out slightly lower and end up slightly higher.[84] So again the conclusion is drawn that there is no trend toward increased differentiation of occupational skill levels along

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* see GRAPHS 8 & 11.
** see GRAPHS 14 & 17.

racial lines.

Finally, if one looks at those labelled old in 1966, 37 to 69 years old in 1940, in terms of low education ( note that there are too few respondents in old, nonwhite of high education to support a comparable comparison on high education ) , one finds a rather substantial difference in the trends. The whites have a definitely positive slope while nonwhites have essentially no slope. But again the two racial groups, though they start at approximately the same level, do not move to substantially different levels given the number of respondents in these cohorts.[85*] Consequently, one is again driven to the conclusion that the respective trends do not tend significantly toward a greater differential along racial lines.

Therefore, what the analysis of age-education cohorts seems to indicate is that, for the crude measures of education and age that are employed here, one cannot reject the hypothesis that industrialization promotes a decreased relationship between occupational skill level and race. At the same time, however, this finding runs counter to the tendency initially uncovered in the overall comparison between the races on mean occupational skill level. As a result, one is drawn to speculate that, to the extent that a tendency toward differential rates of upward occupational mobility exists, the tendency is so evenly spread across the various age-education cohorts so as to be only visible in the overall. But even though there may be a modicum of validity to this speculation, it strikes as inherently unsatisfactory in explanation. Indeed a more appropriate explanation is that the method employed in analyzing these data tends to obscure the differentials extant in social structure at the earliest point in the period under analysis. In other words, although for given

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* see GRAPHS 9 & 12.

categories of age and education one finds no substantial difference in the mobility between races, there may be, as seems to be the case in Puerto Rico, an existing differential distribution according to race along the categories of age and education prior to the advent of rapid industrialization. The consequence of equivalent rates in various status cohorts for whites and nonwhites would thus be to perpetuate the existing differential distribution. And therefore it would only be in the overall comparison between racial categories that a tendency toward a differential distribution according to race, i.e., racially varying rates of upward occupational mobility. This does not mean that we intend to conclude on the basis of the above analysis that such is going on in Puerto Rico; the findings are far from being so definitive. Indeed for the particular case of Puerto Rico one is compelled in terms of the above analysis not to reject the main hypothesis as stated by integration theory. There is held not to be an alignment of racial categories with particular levels of occupational skill. At the same time, however, this does not mean that other processes are not conceivable as alternative to integration theoretical explanation if in fact current tendencies were to become appreciably stronger. Indeed one can tentatively suggest that, to the extent that industrialization promotes upward mobility generally and the application of universalistic criteria in determining individual occupational and political mobility, industrial societies will also tend to intensify those social differentials which already exist.

Before concluding this section there is some additional information that can be milked out of the data. The first is that education seems to be gaining importance as a determinant of occupational success during the period of industrialization. And it further appears that education diminishes in importance

as age increases in that it is only old nonwhites whose mobility is inhibited by lack of education and high education does not effectively promote the mobility of old whites.[86] And happily these findings are in agreement with Jacobson and Kendrick's analysis. Thus we are faced with the anomolous situation in which we cannot reject the basic tenets of integration theory. Industrialization does seem to proceed for the individual as predicted. But at the same time we cannot conclude that there is reason to confirm (ignoring scientific rigor for the moment ) integration theory's predictions for the course of race relations in industrial society. For it appears in the total context that industrialization, even in its most neutral state, easily leads to the promotion of the association of economic and political statuses with social group identifications. And this in itself is held to be the basis for the attachment of salience to social groups in general or to racial groups in specific, as was our concern here.

Indeed industrialization may innocently tend to intensify alignment of status identifications. Therefore it will not be concluded, as at the outset of this analysis seemed likely, that industrialization is held to be an inherently NEUTRAL process that serves simply to perpetuate such racial configurations and relations as existed prior to industrialization. It instead seems likely that Parsons' qualifications of integration theory for application to U.S. race relations is more appropriate. Advancement of a subservient racial group in an industrial or industrializing society appears to hinge on the racial group's ability to act cohesively in the pursuit of the universalistic determinants of economic and subsequently political and social mobility. In addition to this it is an interesting proposition worthy of more thought and investigation that suggests that it is the industrial society itself that promotes the

basis for the formation of salient group identifications for which cohesive action becomes a viable method of promoting individual mobility of group members.

In summary, then, we have accomplished that which was outlined initially. We have looked at the trend occupational status over time and found essentially little or know difference in the mobility patterns between whites and nonwhites in Puerto Rico with the data analysis technique employed. We have demonstrated in this particular case those conditions of societal evolution under industrialization that integration theory assumes in predicting decreasing salience of racial group identifications are indeed extant in Puerto Rico.

But it seems that more has been demonstrated than integration theory's ability to stand partial empirical verification in an isolated context. It seems that the most important point to be made is that there is a complexity to the process of occupational mobility -- in and of itself and as it relates to other aspects of economic, political, and social stratification processes -- that is ignored by the superficiality of integration theory. Indeed, given the method of data analysis pursued here, the complexity has been obscured to a great extent. In that the primary concern was attempting a fairly direct test of some of the basic processes assumed by integration theory, there was obviously little alternative but to pursue such a test. Yet there surfaced, nonetheless, a picture of occupational mobility that, despite all efforts to emphasize the stability and immobility involved in the process, suggested the possibility of much more convoluted processes at work.

In recognizing the disregarded and obscured complexity, it follows that integration theory has emphasized theoretic simplicity while sacrificing theoretic specificity. But the analysis pursued above indicates 1) that there is no real

reason for ignoring the complexity and 2) that there may well be some extremely stable processes involved in occupational mobility that though complex lend themselves to specific statement. In other words it is intended that the above analysis indicate that integration theory has developed generality by remaining simplistic and by ignoring historical specificity. Therefore it is contended that propositional specificity of theory is not , as integration theory would lead us to believe, at odds with theoretic simplicity and generality.

## Conclusion

A great deal has been attempted in this initial work, and perhaps the main conclusion to be drawn in this regard is that which seems to be the leading axiom of sociology. It is that this work should serve to point the way to a great deal of work that remains to be done. This sort of analysis should be pursued on other national and regional groupings with an eye toward developing a large comparative base. In thinking along these lines, however, it is not meant that the above statistical techniques should be pursued in subsequent investigations. Indeed in pursuing the above it has become apparent to the author that other methods of analyzing time-series should be investigated and developed. In fact, although the opinion has not be abandonned that GLS estimation should be attempted on the above data as a possibly fruitful exercise in secondary analysis, it is felt very strongly that there must be more satisfactory and less limited techniques for working with data of the form that was encountered here. But beyond this technical consideration the spirit that motivated the technique still remains. It is still believed that the bulk of the interesting questions in sociology are ones which are fundamentally addressing issues of some form of social change. Coincident with this is the further belief that many of the social phenomena addressed in sociology are fundamentally tapping issues of social change but are not treated as such. This being the case it seems that it is high time that sociologists developed

the skills to be able to comprehend the wealth of information and insight to be had by learning how to digest historical information sociologically. It is still the belief in this regard that more data exists than sociologists capable of analyzing it .

Thus this work agrees with van den Berghe on at least one important point. This work is intended to add further force to his call for a comparative historical approach the study of social life or whatever theoretic pursuits sociologists consider fruitful.. But to his call we add another which taken directly from the Father of contemporary sociology, Pitirim Sorokin.

It is time to declare war on the "plague of sociology", speculative sociology.[87] There is in this author's mind no reason for the continued lack of application of rigorous analytic techniques. This holds even given the general implausibility of conducting controlled experiments, though even in this regard we are seeing opportunities opening up more frequently.

In summary, then, not simply more work needs to be done. More conceptually tight and analytically concise work needs to be done.

As regards the more specific issues raised by this work, little remains to be said. The main concern here was in presenting a theoretically meaningful alternative to the study of race relations. In this regard the main point has been that there are processes in social life that are unique to the actuality of racial groups. Once one accepts this premise, one has a theoretically sound basis for studying the relations of racial groups. Here we studied race relations through the filter of the dynamic aspects of stratification. Whether or not the specific findings were valid or if valid generalizable awaits the repeated tests that science demands. Whether or not the course of study promoted by this effort is to be considered legitimate and / or potentially productive

is an issue of individual opinion. And given this, predictions as to the acceptance or rejection of this approach to race relations is purely a matter of idle speculation and can only ultimately face the test of time.

## FOOTNOTES

1. For example, Hubert Blalock, Toward a Theory of Minority-Group Relations (New York: John Wiley & Sons, Inc., 1967), pp. vii-viii; R.A. Schermerhorn, Comparative Ethnic Relations (New York: Random House, 1970), pp. 3-19; Pierre L. van den Berghe, Race and Racism (New York: John Wiley & Sons, Inc., 1967), pp. 2-8; Milton Gordon, Assimilation in American Life (New York: Oxford University Press, 1964), pp. 6-9: and Robert Blauner, Racial Oppression In America (New York: Harper & Row, 1972), pp. 2-14.

2. Nathan Glazer & Daniel P. Moynihan, Beyond the Melting Pot, 2nd edition (Cambridge: MIT Press, 1970) is probably the most prominent example of work that has suffered strong criticism for its inability to foresee the degree to which racial distinctions would eventually dominate in the area of intergroup relations.

3. Van den Berghe, p. 6.

4. The names of Robert E. Park, Edward Shils, Gunnar Myrdal, Peter I. Rose, Hubert Blalock, Milton Gordon, Oscar Handlin, R.A. Schermerhorn, John C. Legget, Allison Davis, B.B Gardner, M.R. Gardner, W. Lloyd Warner, Leo Srole, O.C. Cox, E. Franklin Frazier, John C. Dollard, Eugene Genovese, and Stanley M. Elkins come readily to mind as examples of such scholars.

5. In all fairness van den Berghe deserves credit for at least qualifying his criticisms with the statement, "These remarks, critical as they are, should not be interpreted as a blanket indictment or as a denial that a great deal of valuable work has been done in the area." (p. 9).

6. It seems that van den Berghe's basis for rejection is rooted in his inability to believe that value-free social science is possible, especially in the analysis of race relations. (pp. 1-2).

7. Van den Berghe, pp. 2-8.

8. Van den Berghe, pp. 142-149.

9. This should not be taken as a criticism of van den Berghe for it only follows that in wanting to make statements that generalize to other social groups besides racial that he would end up ignoring instances of behavior that contribute to race relations' uniqueness as a theoretic area.

10. Van den Berghe, pp. 132-133.

11. Racial Oppression in America (New York: Harper & Row, 1972), pp. 2-11.

12. Blauner, p. vii.

13. Blauner, p. 6.

14. It is also interesting though not central here that Blauner and van den Berghe include most of the same variables in their respective formulations, even though they weigh the importance of the variables somewhat differently.

15. Van den Berghe, pp. 7-8 & Blauner, pp. 6-7.

16. Van den Berghe, p. 36 & Blauner, pp. 12-14.

17. "Dialectic and Functionalism: Toward a Theoretical Synthesis," American Sociological Review, 28 (October, 1963), pp. 695-703.

18. Glazer & Moynihan, Footnote on pp. xix-xx.

19. Here we employ the same definition of race as van den Berghe, see p. 9.

20. Raymond Aron, Main Currents in Sociological Thought I (New York: Doubleday & So., Inc., 1968), pp. 247-248.

21. Aron, p. 260.

22. Karl Marx and Frederick Engels, The Civil War in the U.S. (New York: International Publishers, 1961), pp. 71-83.

23. Neil J. Smelser and James A. David, Sociology (Englewood Cliffs, N.J.: Prentice Hall, 1969), p. 102.

24. Smelser and Davis, pp. 104 & 106.

25. Talcott Parsons, "Full Citizenship for the Negro American? A Sociological Problem," Daedalus (Vol. 94, Fall, 1965), pp. 1009-1055.

26. Parsons, p. 1015.

27. Parsons, p. 1040.

28. Parsons, p. 1050.

29. Edward Shils, "Color, The Universal Intellectual Community, and the Afro-Asian Intellectual," In John Hope Franklin, Color and Race (Boston: Beacon, 1968), esp. pp. 1-5.

30. Shils, p. 4.

31. Shils, p. 4.

32. Barbara Jacobson and John M. Kendrick, "Education and Mobility: From Achievement to Ascription," American Sociological Review (Vol. 38, August, 1973), p. 442. It should be noted here that present work is taking off rather directly from this above piece.

33. Alvin W. Gouldner, The Coming Crisis of Western Sociology (New York: Avon, 1971), pp. 151-162.

34. Herbert Blumer, "Industrialization and Race Relations," in Guy Hunter's, ed. Industrialization and Race Relations (London: Oxford University Press, 1965), pp. 220-221.

35. Parsons, Structure and Problems in Modern Society (Glencoe, Ill.: Free Press, 1960). Also see L.E. Braithwaite, "Race Relations and Industrialization in the Caribbean," in Hunter's, ed. Industrialization and Race Relations, p. 30.

36. Blumer, p. 226.

37. Blumer, pp. 229-230.

38. Pitirim Sorokin, Social Mobility (New York: Harper & Bros., 1927), pp. 155-160 & 414-456.

39. Ralf Dahrendorf, Class and Class Conflict in Industrial Society (Stanford, Calif.: Stanford University Press, 1957), p. 58.

40. Sorokin, pp. 533-534.

41. Sorokin, p. 534.

42. Sorokin, pp. 456 & 535.

43. Sorokin, p. 534.

44. Sorokin, p. 535.

45. Sorokin, pp. 36-67.

46. Sorokin, p. 63.

47. Dahrendorf, p. 61.

48. Dahrendorf, p. 65.

49. Sorokin, p. 537.

50. Sorokin, p. 539.

51. Sorokin, p. 540.

52. Talcott Parsons, Structure and Process in Modern Societies (Glencoe, Ill.: The Free Press, 1960), p. 172 as referenced in S. M. Lipset, The First New Nation (New York: Anchor Books, 1967), p. 5.

53. Lipset, p. 10.

54. Blumer, p. 231.

55. Jacobson and Kendrick, p. 444.

56. Jacobson and Kendrick, p. 444.

57. "Race Relations and Industrialization in the Caribbean" in Hunter's Industrialization and Race Relations, p. 35.

58. Melvin Tumin with Arnold Feldman, Social Class and Social Change in Puerto Rico (Princeton: Princeton University Press, 1961), p. 18.

59. In order to avoid confusion one should note the very important though subtle assumption being made. An increase of salience of racial groups is held to follow from an increased homogenization of economic or political statuses consistent with racial differentiation. Thus increased salience itself is not being tested directly only the basis for it, the realignment of social statuses.

60. Tumin with Feldman, p. 9.

61. It is important to remember also that this information was collected both in 1954 and in 1966-1968. Consequently, if one looks at the work histories from 1940 on, as is being done here, then there were two periods of reporting both of which depend on the respondent's memory for a length of time of 12 to 14 years previous. So the choice also is grounded in methodological considerations. In addition it was also pointed out in discussions with John Kendrick that memories of work activity for 1939 and earlier were often sketchy and incomplete.

62. Natalie Rogoff, Recent Trends in Occupational Mobility (Glencoe, Ill.: The Free Press, 1953) and Peter M. Blau and Otis D. Duncan, The American Occupational Structure (New York: John Wiley, 1967), pp. 90-113.

63. Blau and Duncan, pp. 163-188 & Duncan, "Path Analysis: Sociological Examples," American Journal of Sociology (Vol. 72, July 1966), pp. 1-16.

64. Duncan and Robert W. Hodge, "Education and Occupational Mobility: A Regression Analysis," American Journal of Sociology (Vol. 68, May 1963), pp. 629-644.

65. A.J. Reiss, with collaborators (New York: Free Press of Glencoe, 1961), Chapters 6 & 7.

66. Also elaborated in Duncan and Hodge, pp. 638-640.

67. Note in this regard we are not following the recommendation of S.M. Miller ["Comparative Social Mobility," Current Sociology (Vol. 9, 1960), p. 61], which is not to say that it is not well taken, in his responding work to Lipset's and Bendix's Social Mobility in Industrial Society (Los Angeles: University of California Press, 1967). That is to say, we are not studying rates of mobility, per se, or rates of mobility as they relate to

economic activity - - except to the extent that racial groups are to be considered "less than national units." But even given such as exception, it is still the case that that which is of interest is not rates of trends but discernible differences between trends.

68. There are a number of reasons behind the final choice not the least of which is that to present all the techniques attempted would have added greatly to the length and would have contributed little to the substantive findings. The only hesitancy felt in not presenting all the techniques employed is that doing so would have enhanced the comparison among various techniques as to analytic and descriptive appropriateness. And in that certainly one of the main purposes of this paper is to generate feedback on the application here, it certainly would have promoted feedback to reflect on the data from a number of angles. But since major intent of this paper is to generate comment on the overall logic of the approach and not simply the statistical tools, it does not seem expedient to present the comparison here. In any event it assumed that those capable of criticism of the floowing techniques will be sufficiently aware of alternatives so as not to need to have them present here.

69. For questions as to the method of collection or reliability of information received see Tumin with Feldman or Jacobson and Kendrick. For decision rules in coding of data, Jacobson or Kendrick may be contacted. See also Jacobson and Kendrick, p. 447.

70. Jacobson and Kendrick, especially:

> "the preceding clearly indicates that the growth of certification requirements damaged the career mobility opportunities of some workers," p. 458, and
>
> "Our data concur with recent studies...which claim that as individuals age, the amount of schooling which they managed to attain becomes less salient for their subsequent job mobility." p. 459.

71. Other possible causal factors were considered for inclusion in the analysis, such as skill level of First Job, Perceived Respect for Nonwhites, and Perceived Occupational Opportunity for Nonwhites. These were not included in the analysis both because they are tangential to the main theoretic thrust and because the following technique allows for reasonable analysis only for a small system of variables in any given comparison.

72. There is, of course, the option for the substitution of calculated values, e.g., the mean of the values immediately and continuously preceding and following the missing value(s), for the missing values. For purposes here doing so would require a fair amount of work with no obviously important theoretic or analytic pay off.

73. Indeed if one looks at both listwise and pairwise deletion of missing data on the plots of the means occupational skil level scores (1940-1966), one sees that in the first case, listwise deletion, the distribution across time ranges from 2.05 to 2.43 with a slope of 0.01514 (see graph #2). In the second case, pairwise deletion, the range is from 2.13 to 2.71 with a slope of 0.02297 (see graph #3). Thus our intuitive sense seems to have some basis in that it appears that those with discontinuous career histories were not simply unskilled workers who could not find work, but were also workers for whom absence from the labor force subsequently, more often than not, had an upward effect on their occupational skill level.

74. Although it can probably be demonstrated that the longer someone stays at a given skill level the more likely it is that he will not move to another (and conversely that the more frequently that someone moves between levels the less likely it is that he will remain at a given level), it seems that such association will have minor influence relative to an individual's status at time t-1.

75. It would seem one way to attempt to resolve the issue of the form of the correlation of error would be to run a multiple regression on:

$$u_t = p_0 + p_1 u_{t-1} + p_2 u_{t-2} + v_t$$

and then to see if the partial correlation coefficient of $u_{t-2}$ reduces to zero. It was not done here because it seems to be unnecessary detail when one does not really know how much faith one can have in the results of such a test.

76. Regardless of the complications p was estimated two ways, 1) by applying OLS to $e_t = pre_{t-1} + v_t$ and 2) by solving $D = 2(1-r)$ getting .83 and .875 respectively.

77. J. Johnston, Econometric Methods, 2nd ed. (New York: McGraw-Hill, 1972), pp. 248-249 & Ronald J. Wonnacott and Thomas H. Wonnacott, Econometrics (New York: John Wiley, 1970), pp. 333-334.

78. In other words here we are willing to sacrifice some loss in efficiency of linear estimation for what appears to be a gain in descriptive clarity. This is true under the suspicion that the loss in efficiency is not too great, that other methods would not necessarily improve absolute estimation, and that the relative differences that are of interest will wash out fairly accurrately given the expectation of coincident underestimation of the standard errors of estimate and the slopes.

79. Wonnacott and Wonnacott, pp. 140-142.

80. Note that on only a dichotomy was employed, white against nonwhite. This goes somewhat counter to the thesis developed by H. Hoetink in Two Variants in Caribbean Race Relations (London: Oxford Univ. Press, 1967), especially pp. 120-160., which is that socio-racial relations are not biologically determined but are determined by social-psychological somatic norm images. In this regard the use of only two racial categories in the analysis of Puerto Rico,when in fact there are at least three racial groups (white, trigueno, and negroe) and more likely even a continuum of coloredness, invites criticism of working out of a "North American conceptual design". In the preliminary analysis of this data, however, it was found that a trichotomous categorization of race brought out little substantive difference between triguenos and negroes on the employed variables and technique in addition to making the statistical analysis unreasonably cumbersome.

Also education was measured in 1966 as last grade completed, and it was dichotomized as 'low' being eight years, 'high' being nine years or more. (see Chart #2) Age was also measured in 1966, and it was trichotomized according to the scheme employed by Jacobson and Kendrick, i.e., 'young is less than 49 years, 'middle age' is 50 years through 63 years, and 'old age' is 64 years or older. (see Chart #3)

In the case of the variables education and age collapsing of categories was done because the statistical technique employed does not allow finely scaled variables. Thus it is here that one of the major drawbacks of this technique is noticeable.

81. Confidence limits are presented primarily as a matter of form for the reader. In other words we are not going back on the decision to pursue description as our primary exercise. In any case even allowing the legitimacy of a t-test -- and there has already been evidence presented that promotes the contention that a t-test is incorrect here -- there is no easy statistical decision mechanism for differentiating between the slopes of the trends. The confidence limits give us only confidence that our point estimation of the slope is different from zero. Obviously if we were to establish confidence bands over the whole intervals described by the slopes, the only analytically meaningful result would be complete overlap of the confidence boundaries as defined for differing slopes since partial overlap is possible any number of ways. So rather than attempting to even make crude statistical statements on the basis of point estimation -- which nonetheless might have been taken as appropriate in that we are ultimately interested in comparing the point estimates -- it was decided that the confidence limits should be presented with no appeal to their magnitudes except as they keep us from accepting two slopes as being different.

82. In 1940 the difference between the means was .314, significant at the .01 level, while in 1966 the difference between the means was .438, which was significant at the .001 level. Thus nonwhites did not gain any ground in the relative difference between whites and nonwhites, and it is unclear as to whether or not they lost ground.

83. Note, however, in terms of higher education there is not a significant difference ( at the .01 level ) between whites and nonwhites at either the beginning of the time period or the end. For 'young' people of 'low' education there is also no significant difference at the beginning or end of industrial ization as measured here.

84. Such that there is no significant difference between the means in 1940 or 1966.

85. There is no significant difference in 1940 or 1966 at the .01 level, even though the difference increases such that it is significant in 1966 at the .1 levle and the difference in 1940 is not.

86. Obviously some of this is also a reflection of age points at which mobility is likely to occur. But, although the time period of twenty-seven years itself will not usually cover a total career history, the ranges of the age cohorts are broad enough to allow a fairly good sense of the overall pattern.

87. Sorokin, Preface to the 1927 edition.

CHART #1[69]

Categories of Occupational Skill Level
1940 through 1966

1. Unskilled
2. Semi-skilled
3. Skilled
4. Lower White Collar
5. Upper White Collar / Semi-professional
6. Professionals

8. No information
9. Not applicable

CHART #2

Education: last grade completed in 1966, marginal frequencies of raw categories. 'low' = 0 to 8; 'high' = 9 to 23.

| VALUE | ABSOLUTE FREQUENCY | RELATIVE FREQUENCY (PERCENT) | ADJUSTED FREQUENCY (PERCENT) | CUMULATIVE ADJ FREQ (PERCENT) |
|---|---|---|---|---|
| 0.0 | 125 | 18.7 | 18.7 | 18.7 |
| 1.00 | 17 | 2.5 | 2.5 | 21.2 |
| 2.00 | 24 | 3.6 | 3.6 | 24.8 |
| 3.00 | 69 | 10.3 | 10.3 | 35.1 |
| 4.00 | 78 | 11.7 | 11.7 | 46.8 |
| 5.00 | 47 | 7.0 | 7.0 | 53.8 |
| 6.00 | 37 | 5.5 | 5.5 | 59.3 |
| 7.00 | 20 | 3.0 | 3.0 | 62.3 |
| 8.00 | 56 | 8.4 | 8.4 | 70.7 |
| 9.00 | 22 | 3.3 | 3.3 | 74.0 |
| 10.00 | 21 | 3.1 | 3.1 | 77.1 |
| 11.00 | 14 | 2.1 | 2.1 | 79.2 |
| 12.00 | 60 | 9.0 | 9.0 | 88.2 |
| 13.00 | 7 | 1.0 | 1.0 | 89.2 |
| 14.00 | 20 | 3.0 | 3.0 | 92.2 |
| 15.00 | 10 | 1.5 | 1.5 | 93.7 |
| 16.00 | 23 | 3.4 | 3.4 | 97.2 |
| 17.00 | 4 | 0.6 | 0.6 | 97.8 |
| 18.00 | 6 | 0.9 | 0.9 | 98.7 |
| 19.00 | 4 | 0.6 | 0.6 | 99.3 |
| 23.00 | 1 | 0.1 | 0.1 | 99.4 |
| 88.00 (INAP) | 4 | 0.6 | 0.6 | 100.0 |
| TOTAL | 669 | 100.0 | 100.0 | 100.0 |

CHART #3

Histogram of Age distribution in 1966.

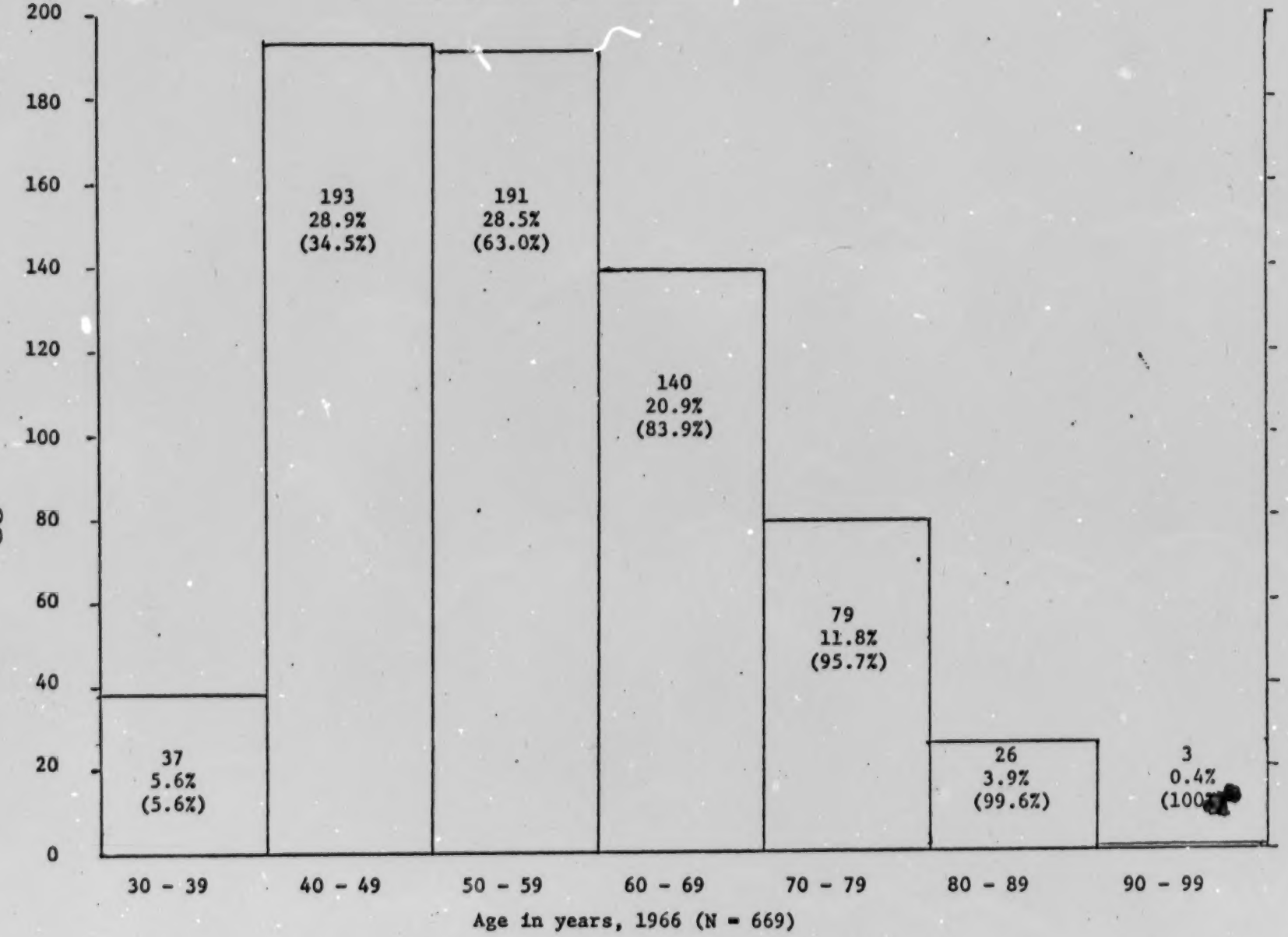


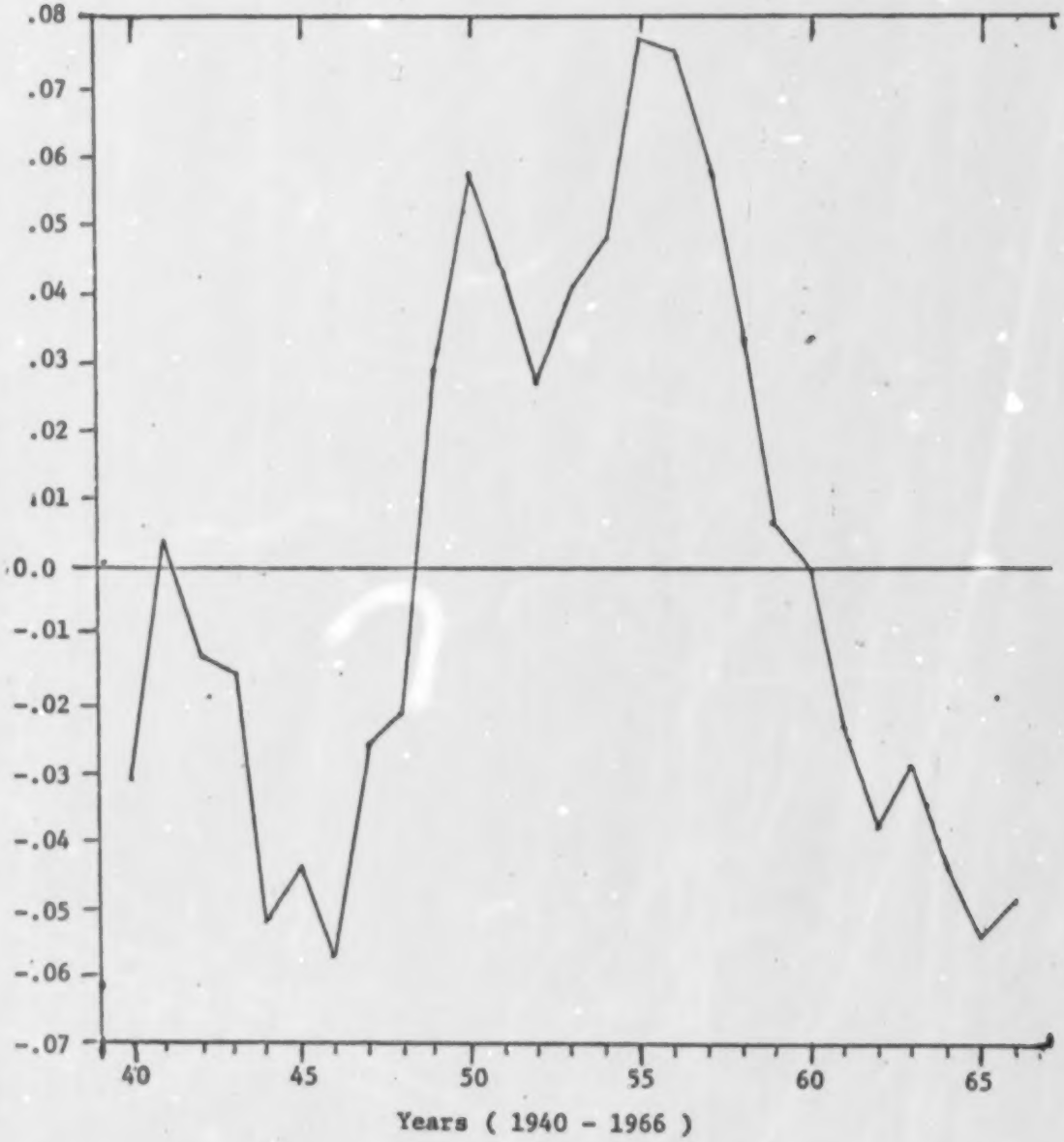
TABLE #1

Slopes of trends by cohorts.
( Confidence limits for .01 level of significance )

| White | | Nonwhite | |
|---|---|---|---|
| **Low Education** | | **Low Education** | |
| $b_{young}$ | = .019 ± .002 (n= 72) | $b_{young}$ | = .021 ± .004 (n= 69) |
| $b_{middle\ age}$ | = .010 ± .002 (n= 101) | $b_{middle\ age}$ | = .015 ± .004 (n= 80) |
| $b_{old\ age}$ | = .011 ± .004 (n= 84) | $b_{old\ age}$ | = -.003 ± .004 (n= 65) |
| **High Education** | | **High Education** | |
| $b_{young}$ | = .054 ± .013 (n= 60) | $b_{young}$ | = .052 ± .014 (n= 28) |
| $b_{middle\ age}$ | = .032 ± .008 (n= 49) | $b_{middle\ age}$ | = .018 ± .008 (n= 20) |
| $b_{old\ age}$ | = .005 ± .005 (n= 30) | $b_{old\ age}$ | = .079 ± .019 (n= 5) |

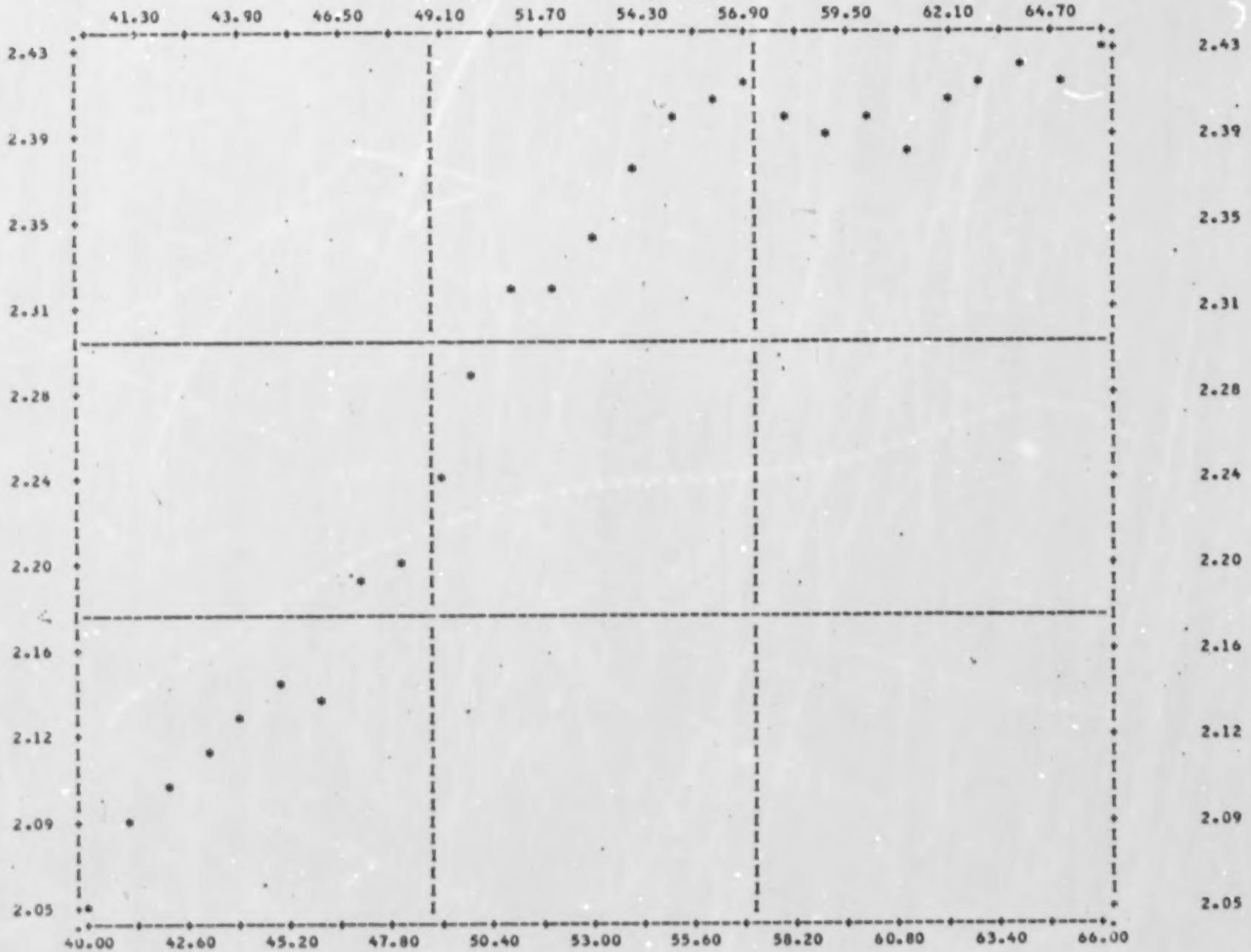
GRAPH #1

Plot of estimated error of overall trend of Mean Occupational Skill Level (40-66)



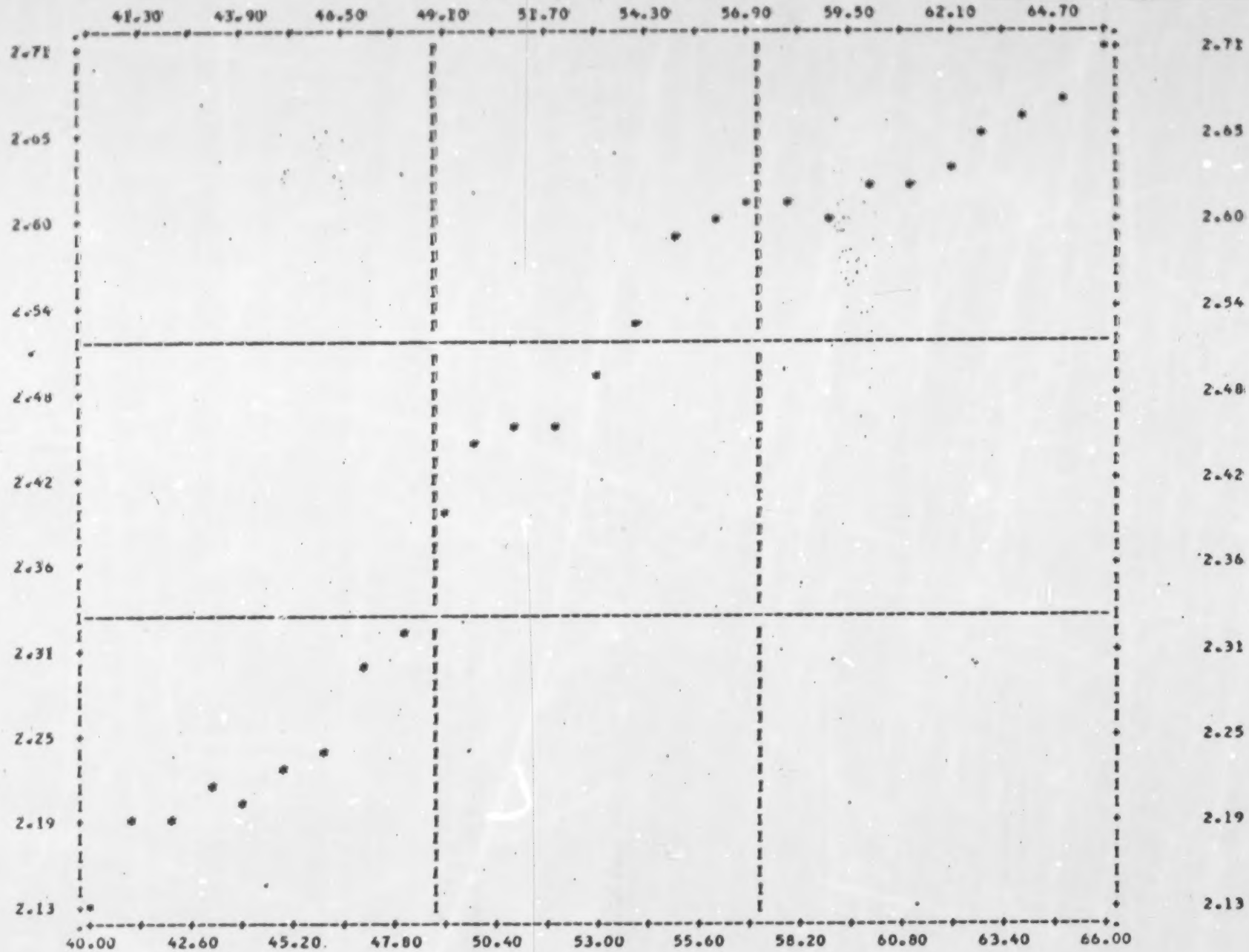
GRAPH #2

Plot of overall Mean Occupational Skill Level$_{(40-66)}$, listwise deletion of missing values.



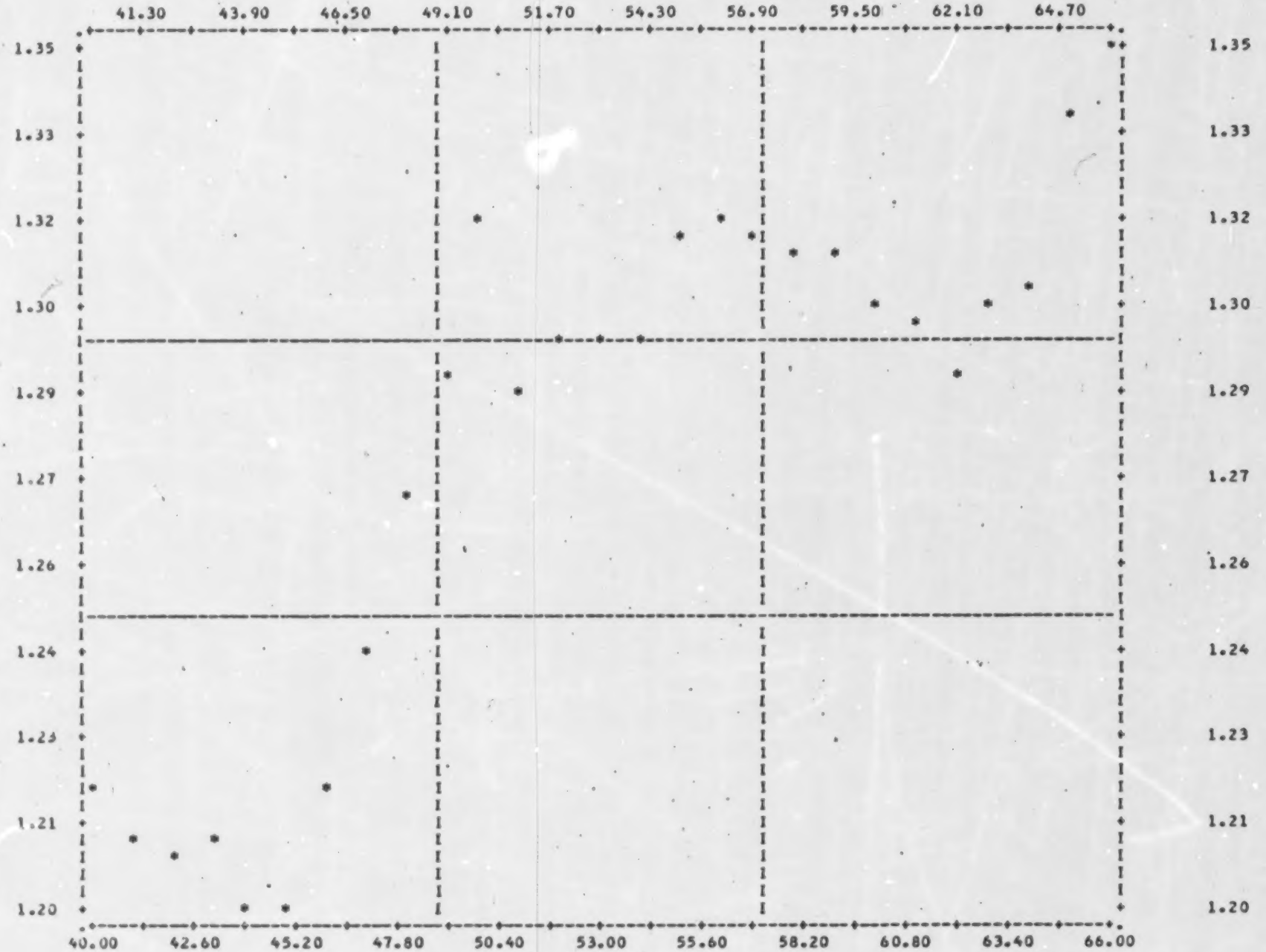
GRAPH #3

Plot of overall Mean Occupational Skill Level$_{(40-66)}$, pairwise deletion of missing values.



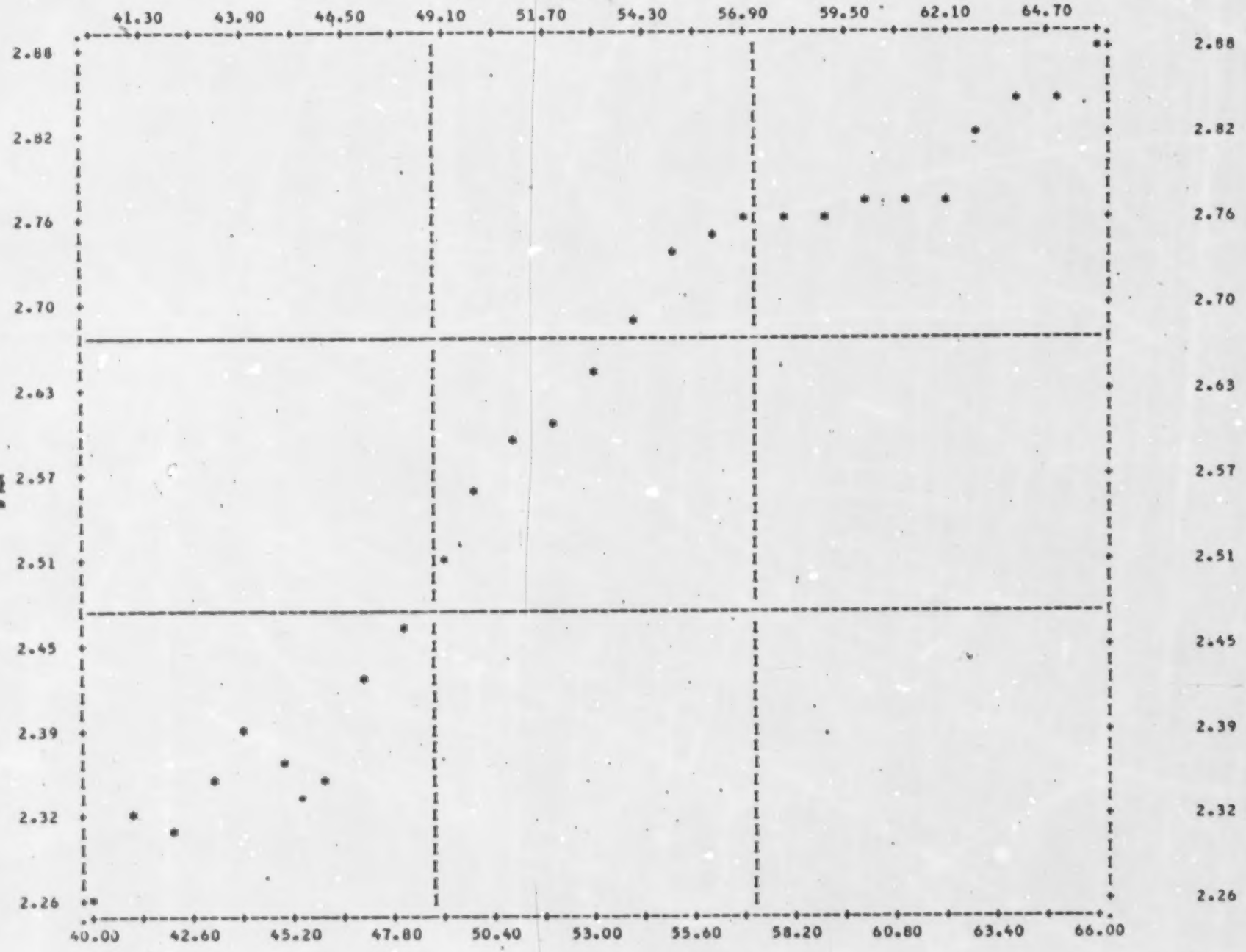
GRAPH #4

Plot of Standard Deviations for Occupational Skill Level$_{(40-66)}$, pairwise deletion of missing values.



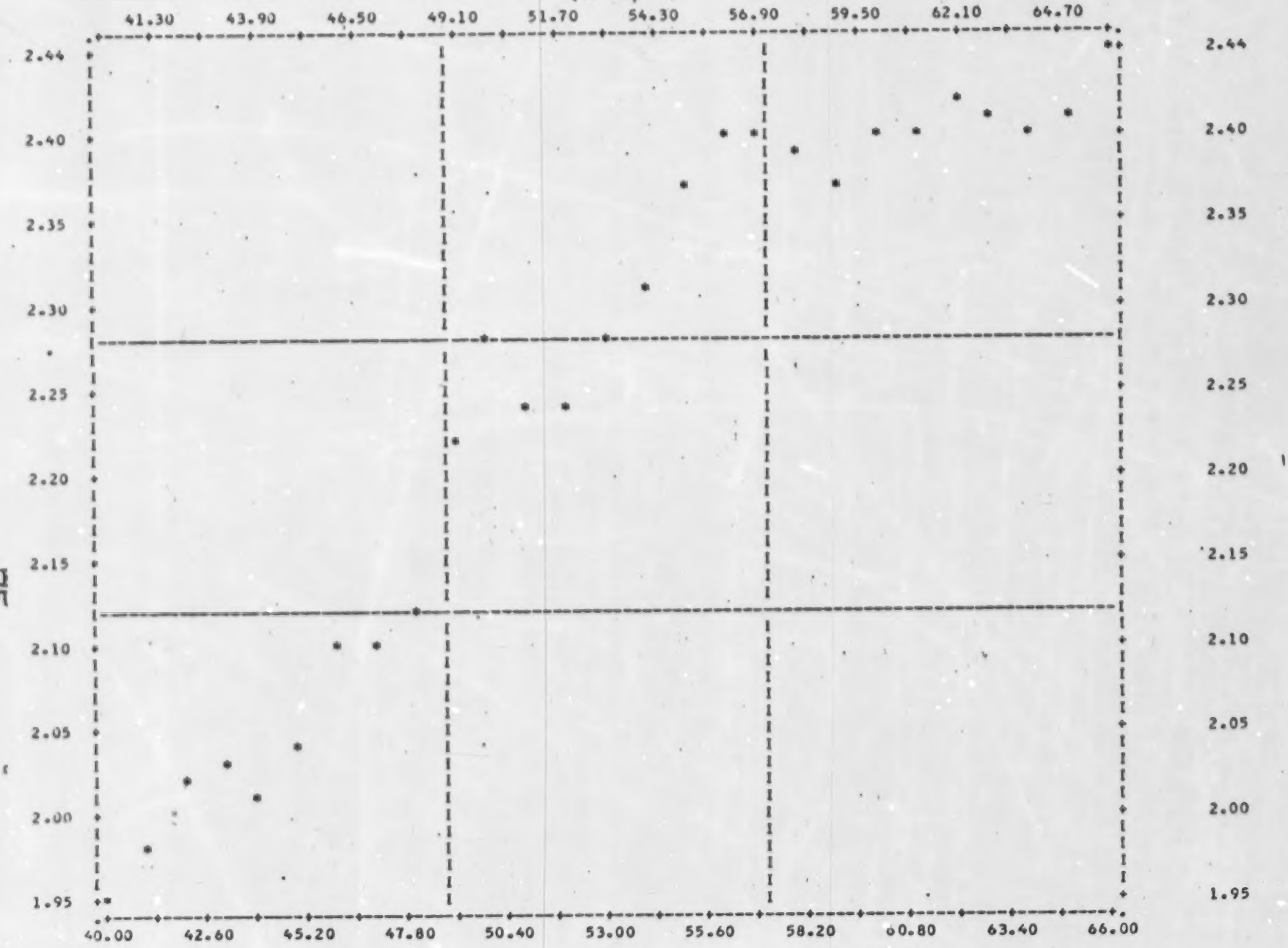
GRAPH #5

Plot of Mean Occupational Skill Level$_{(40-66)}$, overall trend for whites.



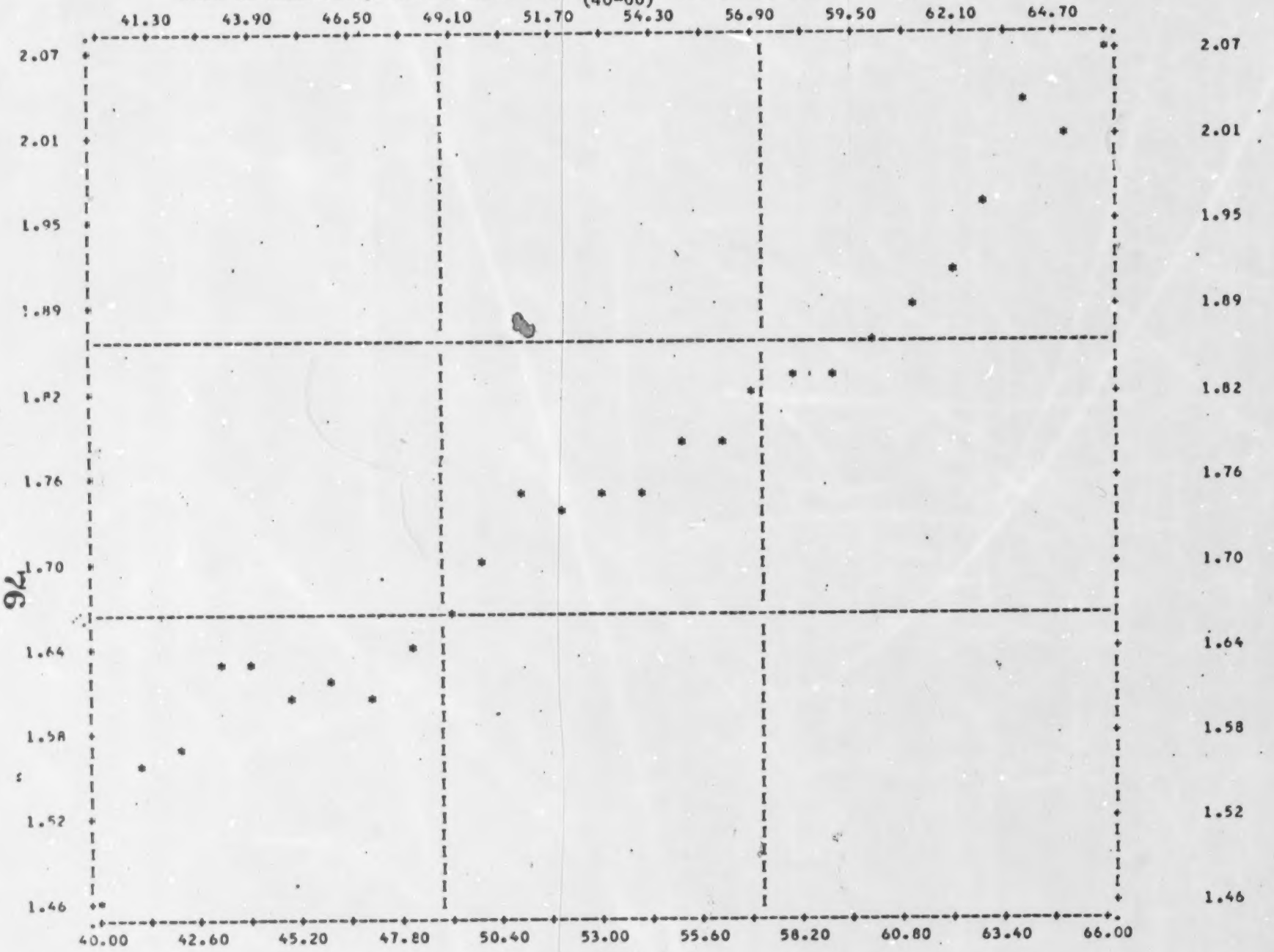
GRAPH #6

Plot of Mean Occupational Skill Level$_{(40-66)}$, overall trend for nonwhites.



GRAPH #7

Plot of Mean Occupational Skill Level$_{(40-66)}$, for young whites of low education.

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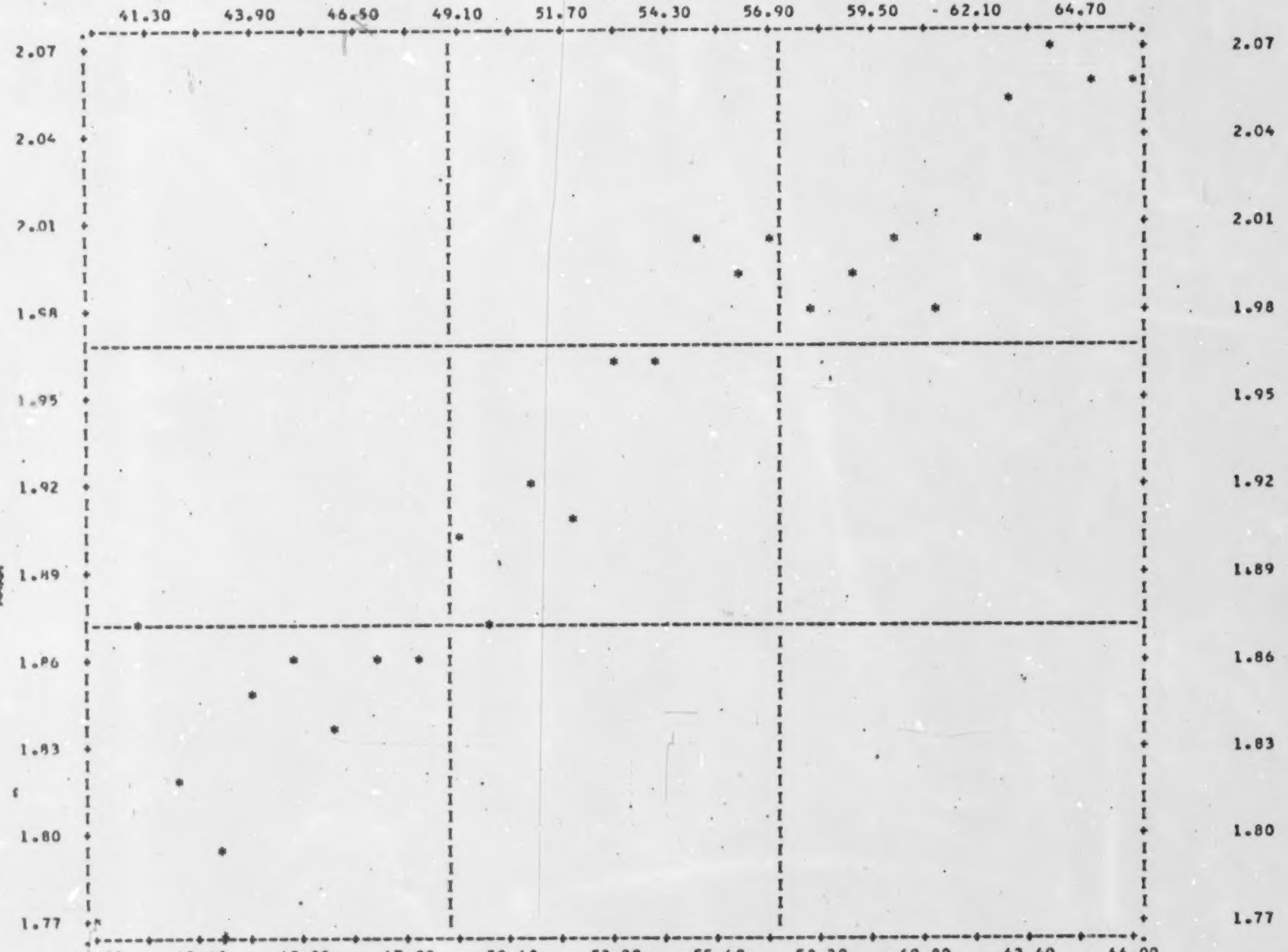
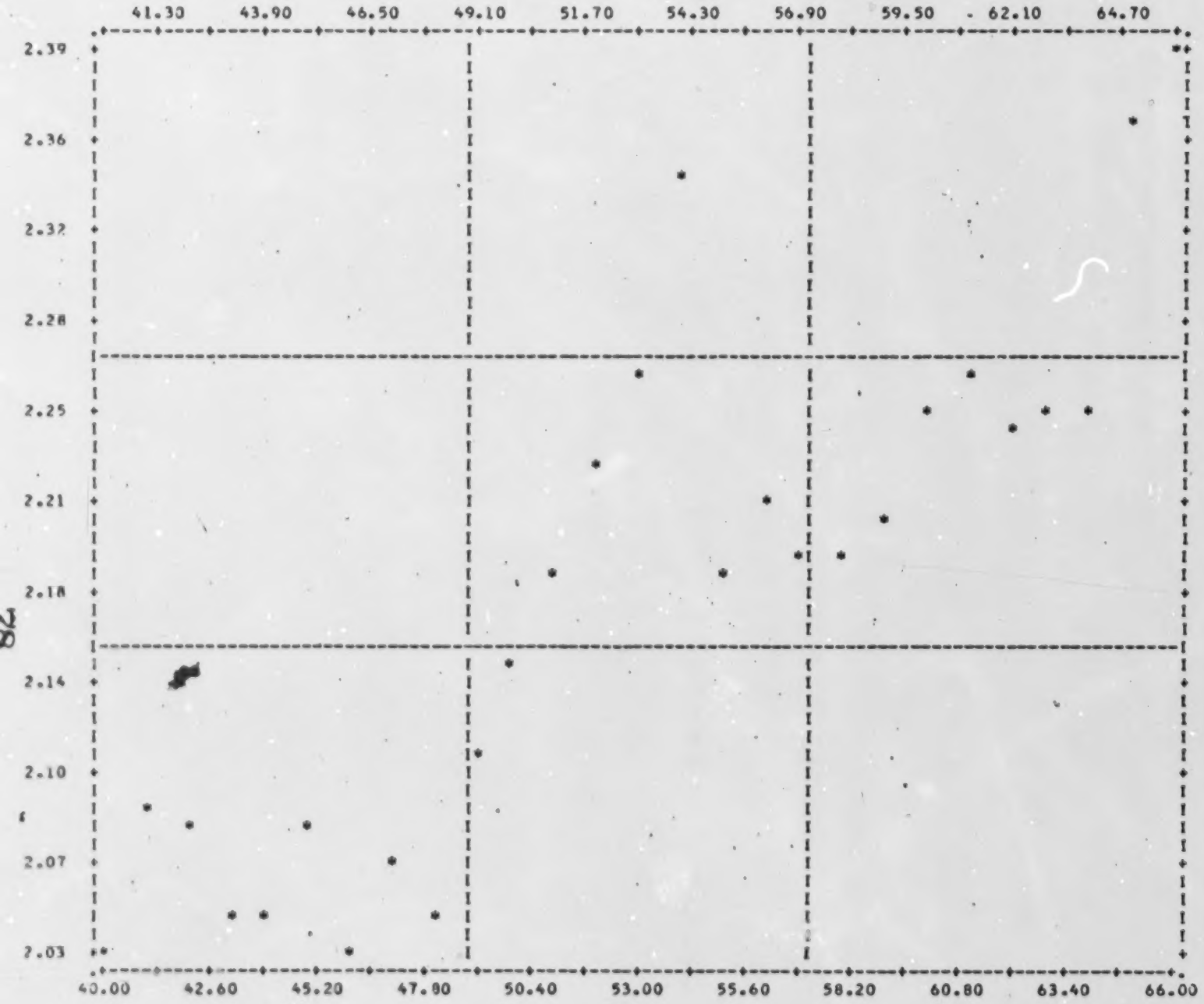
GRAPH #8

Plot of Mean Occupational Skill Level$_{(40-66)}$, for middle-age whites of low education.



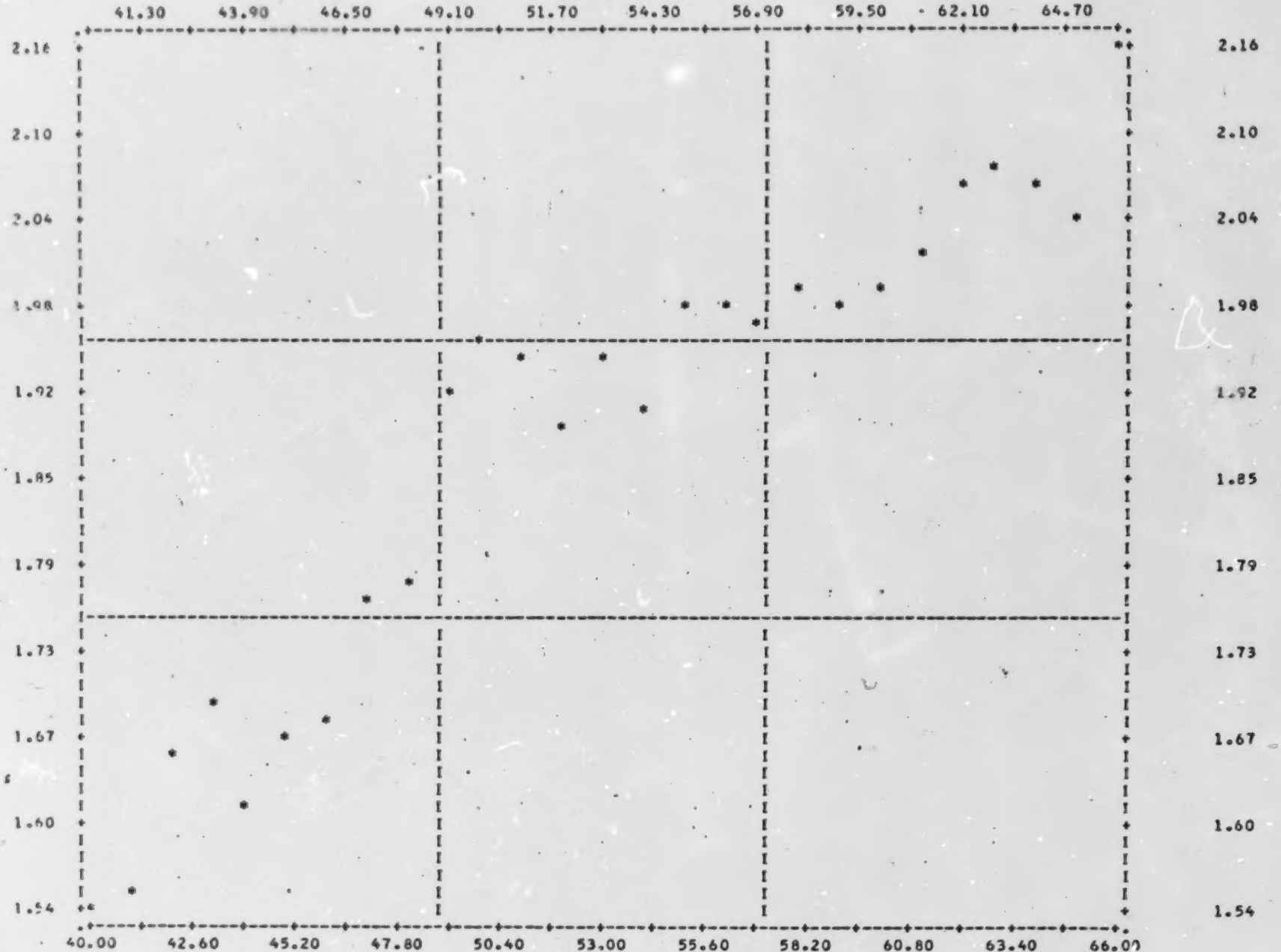
GRAPH #9

Plot of Mean Occupational Skill Level$_{(40-66)}$, for old-age whites of low education.



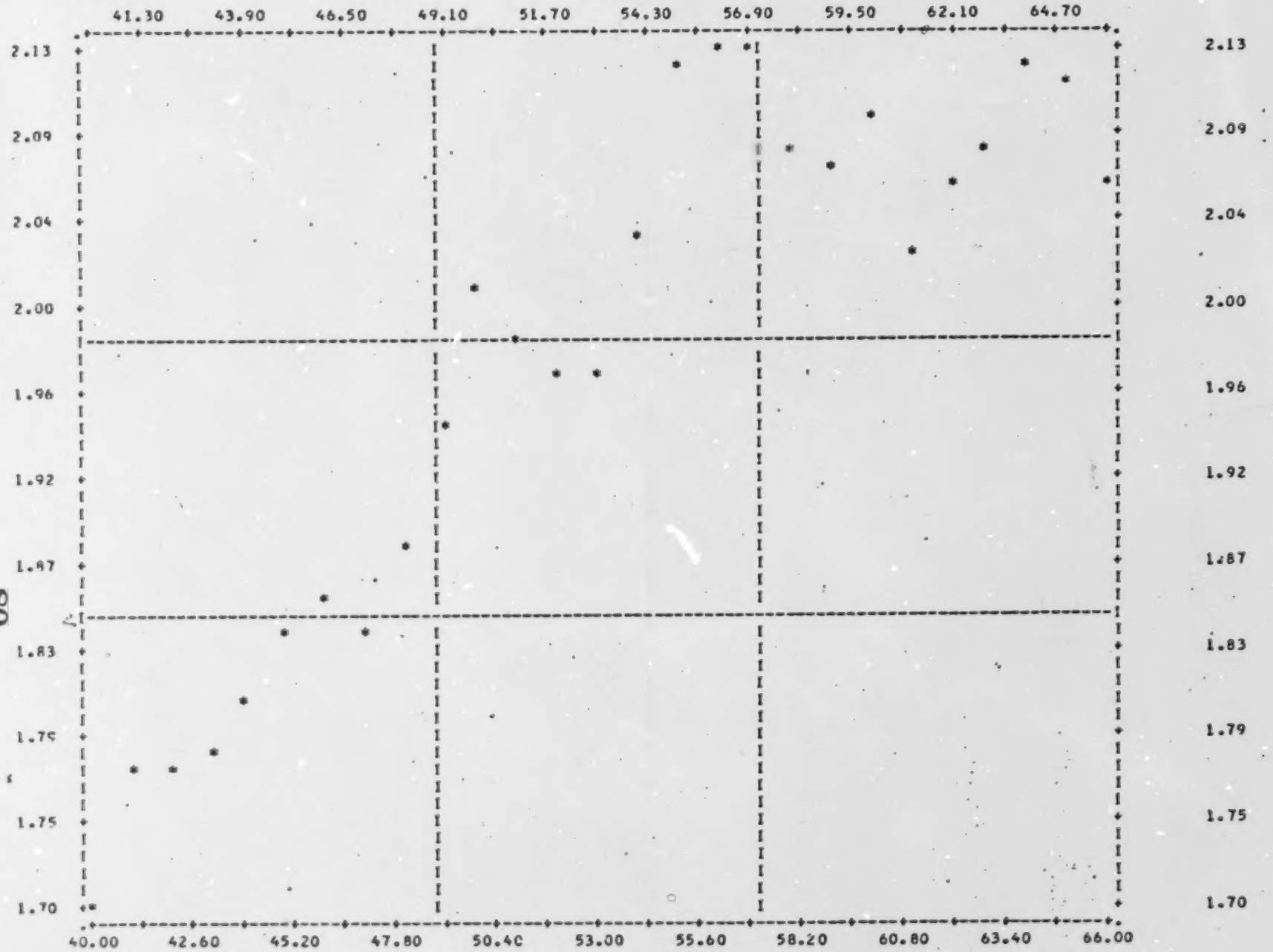
GRAPH #10

Plot of Mean Occupational Skill Level$_{(40-66)}$, for young nonwhites of low education.



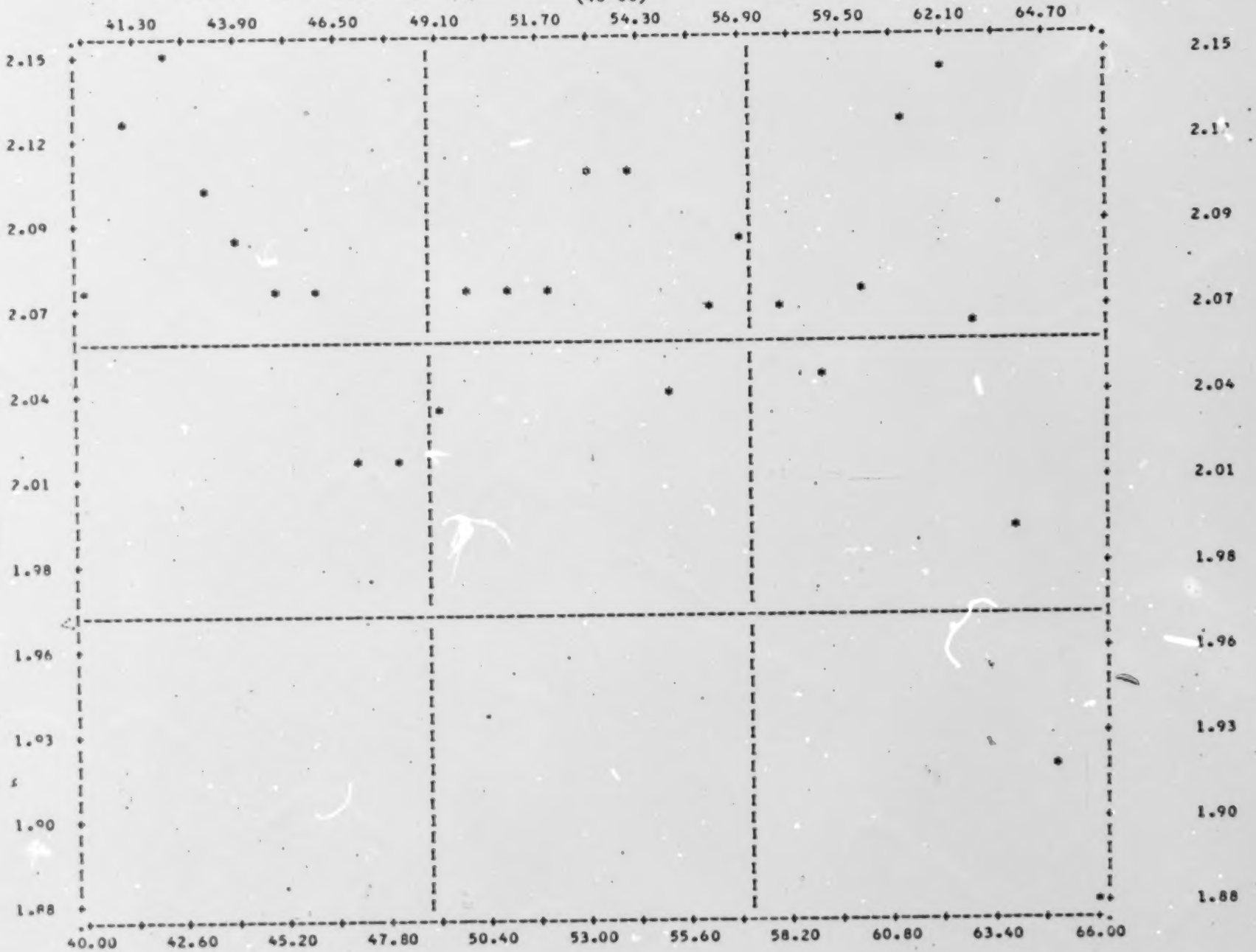
GRAPH #11

Plot of Mean Occupational Skill Level$_{(40-66)}$, for middle-age nonwhites of low education.



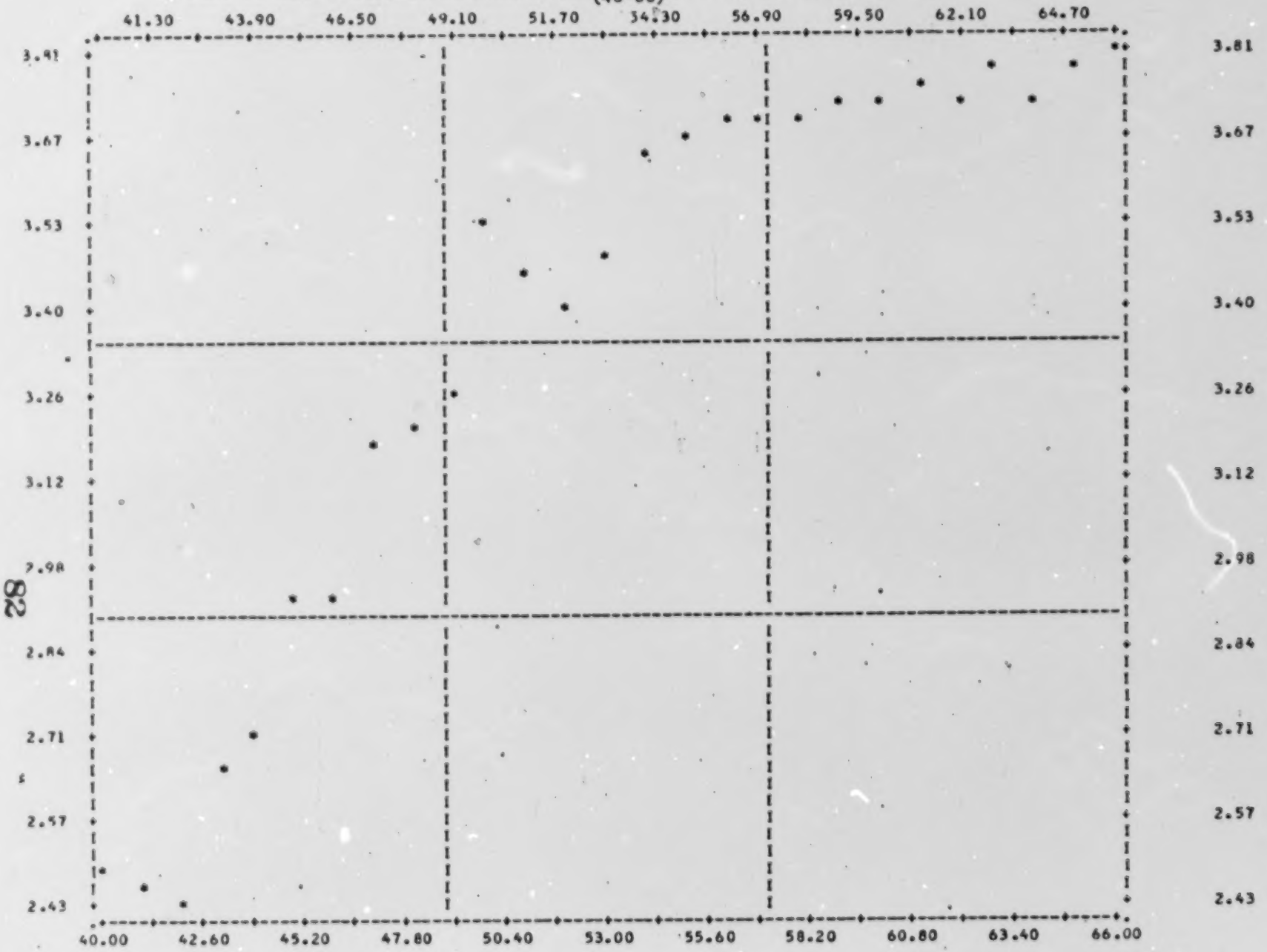
GRAPH #12

Plot of Mean Occupational Skill Level$_{(40\text{-}66)}$, for old-age nonwhites of low education.



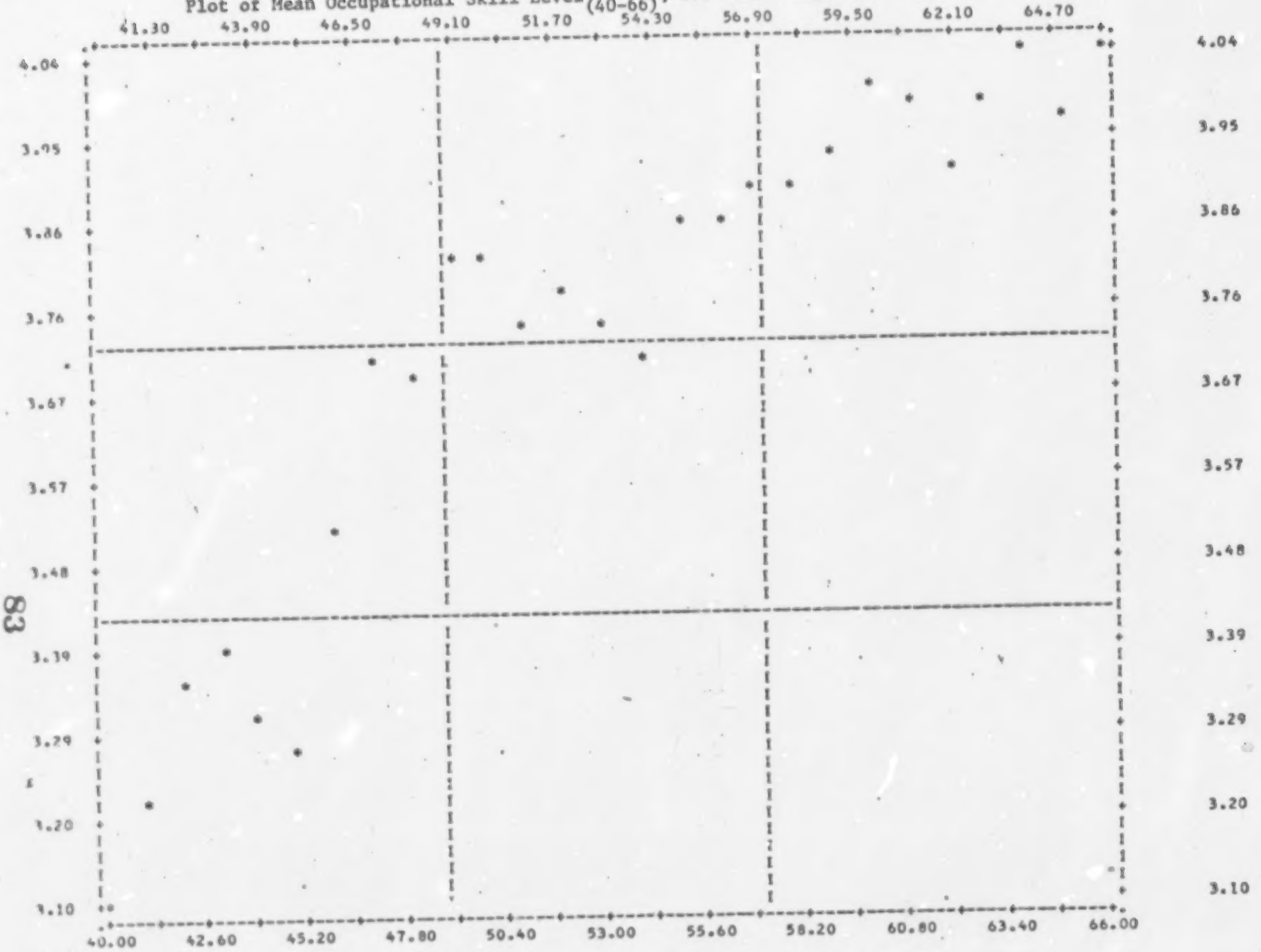
GRAPH 13

Plot of Mean Occupational Skill Level (40-66), for young whites of high education.



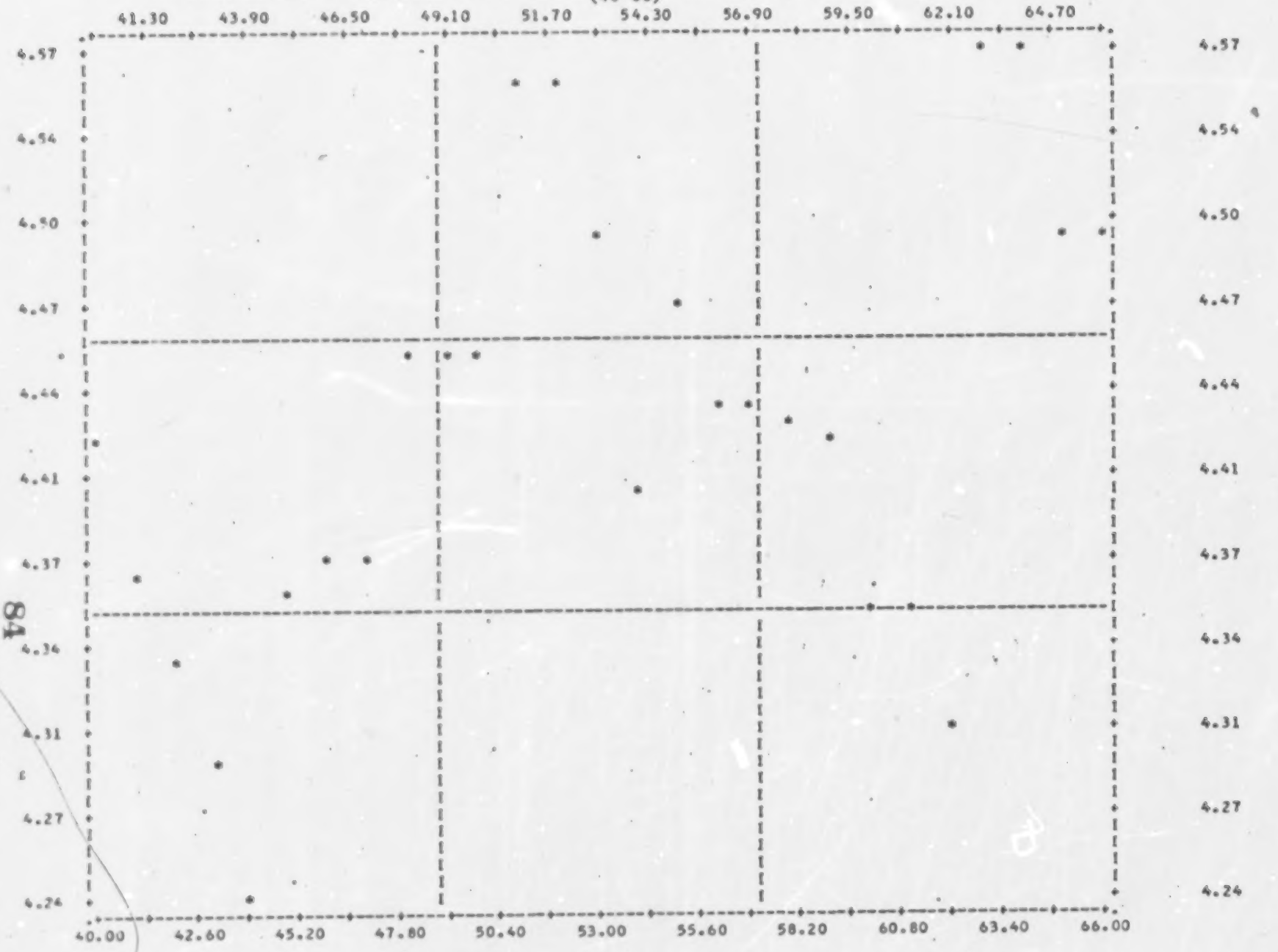
GRAPH #14

Plot of Mean Occupational Skill Level (40-66), for middle-age whites of high education.



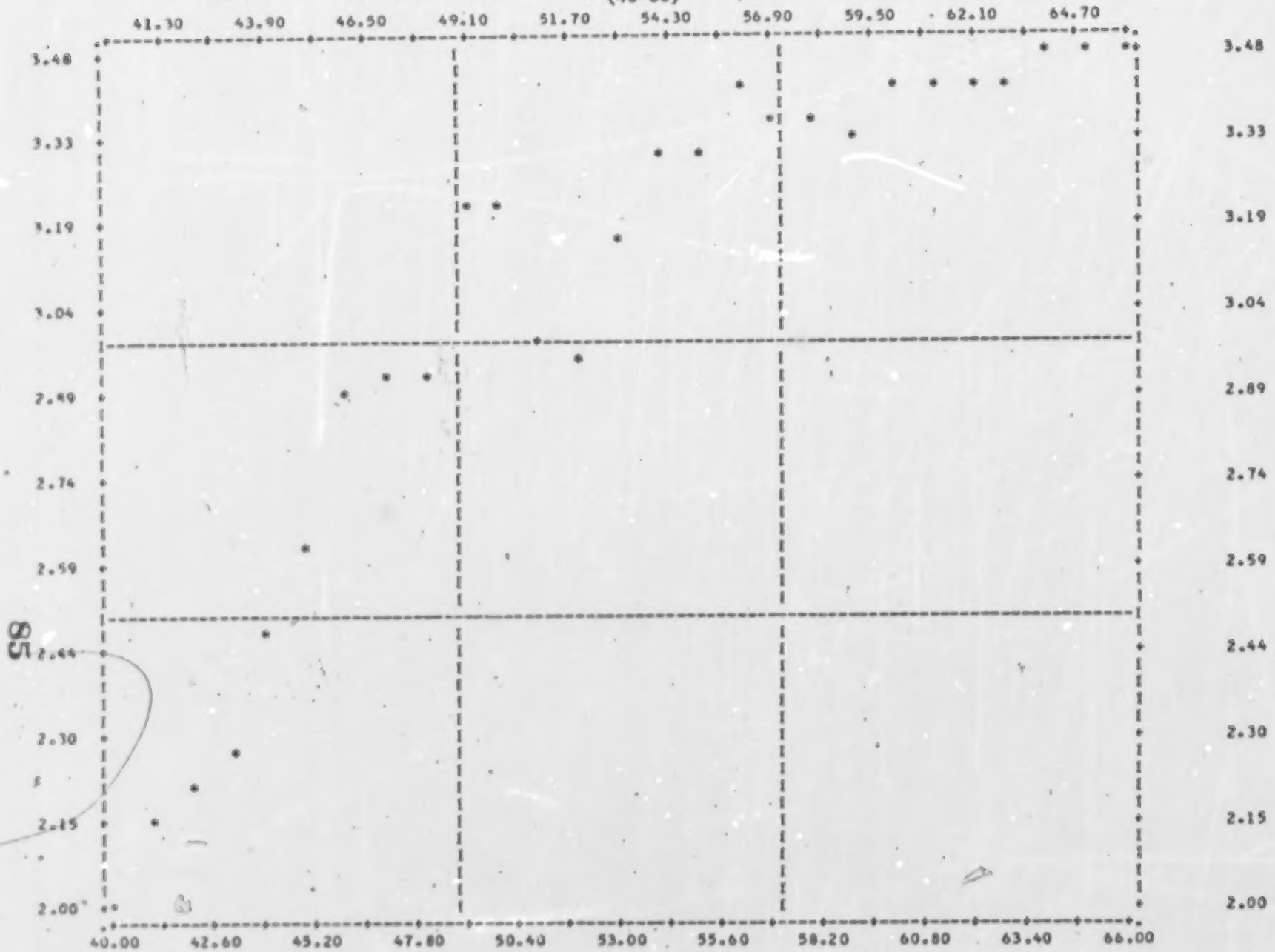
GRAPH #15

Plot of Mean Occupational Skill Level$_{(40-66)}$, for old-age whites of high education.



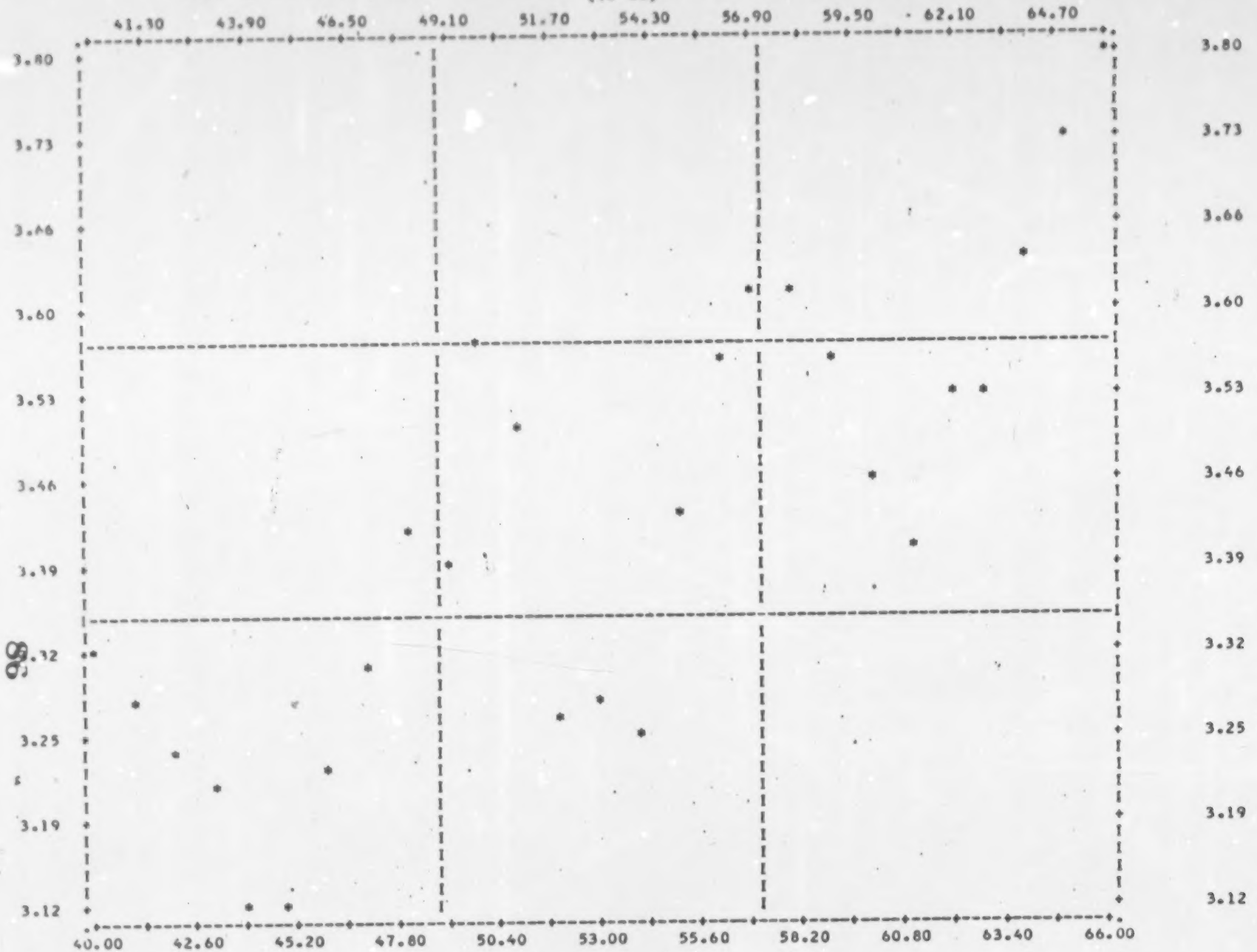
GRAPH #16

Plot of Mean Occupational Skill Level$_{(40-66)}$, for young nonwhites of high education.



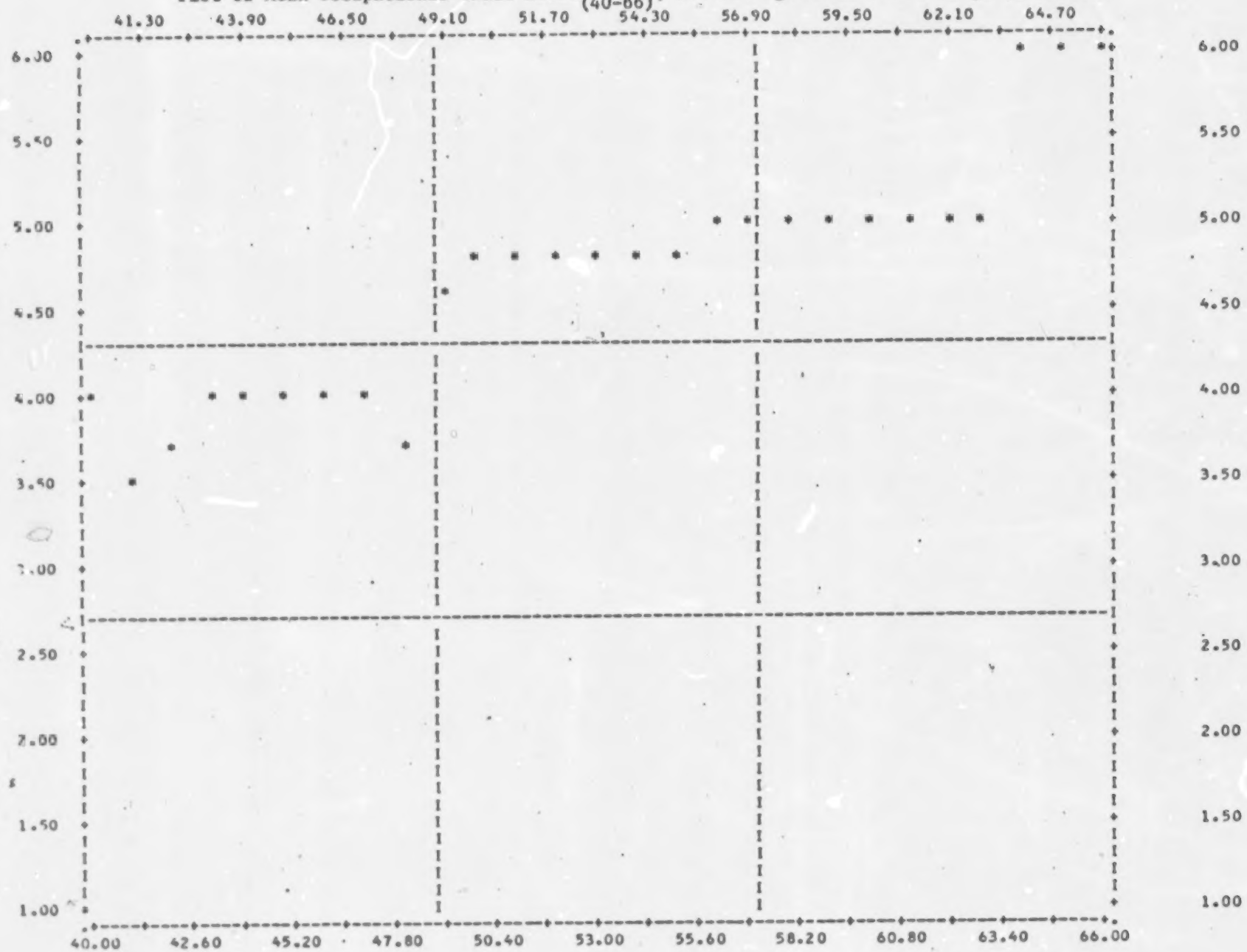
GRAPH #17

Plot of Mean Occupational Skill Level$_{(40\text{-}66)}$, for middle-age nonwhites of high education.



GRAPH #18

Plot of Mean Occupational Skill Level (40-66), for old-age nonwhites of high education.



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